Viewing Person-Environment Fit Through the Lenses of Organizational Change: A Cross-level Study

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Viewing Person-Environment Fit Through the Lenses of Organizational Change:
A Cross-level Study

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SUMMARY

Organizational behavior literature has not typically viewed person-environment (PE) fit as an outcome of organizational change. Although organizations consider PE fit of their employees to be important to the success of both parties, the study of antecedents to individuals' fit with their work environment has largely been restricted to the selection and socialization of newcomers. This study investigates effects of several change factors (e.g., the extent of change and how it was managed), as well as the cross-level interaction between the change factors and individual differences (e.g., motivational orientations) on PE fit of individuals who participated in various organizational changes. PE fit was evaluated along three dimensions (Person-Job, Person-Group, Person-Organization). Results show that change is a complex phenomenon and is best understood by interactions between the extent of change, characteristics of the change process, and differences in individuals' motivational tendencies. Specifically, the study showed that the fairness of the change process was typically associated with PJ and PO fit, whereas management support for the change generally related to PJ and PG fit. In addition, limited support was found for hypothesized effects of motivational orientations. As expected, Mastery related positively with PE fit, while positive effects of Competitiveness (an externally cued Approach orientation) on PE fit depended on high levels of management support. Surprisingly, it was low Avoid individuals (not high) where the extent of change related negatively with aspects of PE fit. A discussion of the results, as well as limitations and implications of this study, is provided for consideration on future research in this area.

INTRODUCTION

Organizational change has traditionally been viewed as actions taken by organizations to alter their internal characteristics for better fit with their external environment (Lawrence, 1990). Thus, since major themes in the study of organizational change (e.g. changes in structure, strategy, or culture and other changes due to competitive pressures) have focused primarily on organizational level responses (Armenakis & Bedian, 1999), organizational change has not typically been seen as targeting behavior of individuals (Johnson, 1996). Yet, most organizational changes have consequences for different levels of the organization, and therefore it is necessary to recognize how change directed at one level will "spill over and have an impact on other levels" (Mohrman, Mohrman, & Ledford, 1990, p. 149). Furthermore, experience has shown that management desires their employees to support change initiatives and adjust their behavior accordingly, but many organizational changes do not happen as management intended (McKinley & Scherer, 2000). Therefore, there exists a growing interest in understanding how change, cascading down through the organization, affects the individual (e.g., Burke & Litwin, 1992; Judge, Thoresen, Pucik, & Welbourne, 1999).

Since individuals' perception and interpretation of management's actions may ultimately determine outcomes of change for organizations, individuals' attitudes toward change and resistance to change have become important priorities for studying organizational change (Piderit, 2000). Yet, the general tendency of employees to *comply* with a change in spite of their level of commitment to it (Herscovitch & Meyer, 2002) suggests compliance alone is insufficient to fully understand the short and long term

implications of organizational change on its members, and subsequently on the organization.

For instance, most individuals are keenly interested in attaining congruence or alignment with aspects of their work environment (Schneider, 1987). This desirable state for employees has been conceptualized as person-environment (P-E) fit (Chatman, 1989; Kristoff, 1996). Although high levels of PE fit are often touted in selection and socialization literatures as the key to retaining a workforce with the flexibility and commitment necessary to meet the challenges of change (Kristof, 1996), there has been limited research concerning the effects of organizational change on PE fit. Since behavioral consequences of individuals' fit with their environment range from rebellion to creativity (Fisher, 1986), managers interested in the adaptability of their employees should better understand the consequences of change on individuals' ongoing compatibility with their work environment (Pulakos, Arad, Donovan, & Plamondon, 2000).

Unfortunately, there are many unanswered questions about what happens to individuals' PE fit when they find themselves in changing work environments. We know little about what influences the PE fit of employees during their tenure in organizations. For instance, is PE fit maintained, enhanced or reduced when organizational change is initiated? Moreover, do the effects of organizational change on PE fit vary by types of individuals, the nature of the change, the manner by which the change was implemented, the level of support from management for the change, or some combination of these factors?

Since the study of antecedents of PE fit has historically been associated with hiring and socialization practices (Cable & Parsons, 2001; Kristof, 1996), answers to questions relating to organizational change have been scarce. Yet, given the costs of personnel selection, socialization, and turnover (Bauer, Morrison, & Callister, 1998), it is reasonable to think that PE fit would be important to management throughout employees' tenure with the organization (Kristof-Brown, Jansen, & Colbert, 2002). Therefore, the purpose of this study is to enhance understanding of what happens to PE fit when organizations initiate change. Since there is significant commonality in outcomes resulting from organizational change and PE fit (e.g., turnover, job satisfaction, commitment, and cynicism) and, at the same time, little understanding of the relationships between them, this paper provides an important step forward for both fields of study.

Specifically, this study investigated effects of change related factors (e.g., the extent of change in individual's work unit and two characteristics of the change process) on facets of PE fit. In addition, this study explored the interaction of intermediate individual differences (e.g., motivational orientations) with change factors as influences on individuals' realignment of their PE fit due to organizational change. As such, results are provided to support three key contributions of this study. One is that the change process consists of at least two distinct characteristics, the level of procedural fairness and management's support for the change, each of which is associated with different facets of PE fit. Second, motivational tendencies do interact with change factors to determine how different facets of PE fit are affected by organizational change and related change processes. Third, interactions between the extent of change and motivational

tendencies do not always have the same effect on PE fit when the change process is considered "good" versus when it is considered "poor" (resulting in three-way interactions).

Results of this study have theoretical, as well as practical, implications. For ongoing success of organizational change initiatives, employees must first adapt to changes in their job demands, changes in affiliation with their work group, and changes in their organizations' goals and values (Pulakos et al., 2000). Thus, this study opens the door for further research in the mediating effects of PE fit on employees' attitudes and behavior from organizational events such as change. Moreover, the study shows that it is advantageous for management to know which aspects of change, which characteristics of the change process, and which differences in individuals' pre-dispositions tend to affect which facets of PE fit of their employees. Doing so could enable organizations to reduce common fallout from organizational change (e.g., resistance, turnover, low morale, lower productivity).

First, I present an overview of a model that addresses relationships associated with effects of organizational change on PE fit. Then, I selectively review PE fit, organizational change, organizational development, and motivational orientation literatures to provide a foundation for the hypotheses to be tested. Next, I describe the method of testing the hypotheses, including a discussion of the sample and the measures to be used, as well as the analyses to be conducted. Finally, results are provided and discussed along with limitations of this study and implications for future research.

OVERVIEW OF MODEL

In developing a model that depicts relationships between organizational change and PE fit, it is necessary to identify relevant features of the context of employees that are consistent with the content of PE fit (c.f., Kozlowski & Salas, 1997). As such, given that individuals are embedded in a workplace context described as nested systems of jobs within groups within organizations (Von Bertalanffy, 1975), three facets of PE fit that are aligned with these systems are considered in the model. In addition, given that there is not one single model by which researchers study organizational change, this paper uses several major themes of organizational change (Armenakis & Bedian, 1999) to provide guidance for the factors that are most likely to affect individuals' PE fit. Finally, the model includes motivational orientations to represent influences of different individual tendencies on PE fit during change and to gain greater understanding of effects of motivational processes on PE fit.

One important issue for developing a model, which tests effects of change on PE fit, is the question of which of the multiple facets of fit would adequately explain employees' compatibility with their work environment when that environment is changing? Using just one facet of PE fit (e.g., job, group, or organization) continues to keep the study of PE fit fragmented and incomplete (Cable & DeRue, 2002; Kristof-Brown, 2000). Yet, using all facets of fit is beyond the scope of a single framework. This study draws on recent literature in the study of multiple dimensions of PE fit to include three facets of PE fit that are relevant to organizational change (e.g., Kristof-Brown et al., 2002). The resulting three facets provide one at the job level (PJ fit), one at the work

group level (PG fit), and one at the broader organizational level (PO fit). These are discussed in detail in the next section.

Second, Armenakis & Bedian (1999) organized the recent study of change into overarching themes. Two of the themes relevant to this study are *content* (what is changed) and *process* (how change is implemented). Although the "what" construct has been approached in a variety of ways (e.g., Burke & Litwin, 1992; Vollman, 1996), *content* will be conceptualized in this study as the magnitude of change occurring in work unit level phenomena (e.g., structures, goals and work processes). This places change, as a predictor, more proximal to the dependent variables (facets of PE fit) than more traditional macro-level views of organizational change.

Although the change *process* has primarily focused on phases within which change agents act or stages through which recipients of change progress (Armenakis & Bedian, 1999), there are characteristics of the change process that are particularly salient to individuals' reactions to change (e.g., PE fit). For instance, Novelli, Kirkman, & Shapiro (1995) argued that outcomes of each phase of change process models are affected by justice perceptions made by the change participants. Justice researchers have likewise focused on consequences of change processes (e.g., Cobb, Wooten, & Folger, 1995). Such studies have investigated relationships between employees and their organization resulting from the presence of fairness qualities in change processes (Brockner, 2002). Management support is another characteristic of change process models that has received recent attention. From this perspective, individuals' reactions to change result from management's demonstrated commitment to the change (e.g., providing active support and necessary resources). In a recent case study, Schneider

(2002) found that management support associated with the change process was instrumental in helping individuals navigate change successfully relative to aspects of their workplace environment. Although there may be other characteristics of the change process that could affect individuals' responses to change (e.g., length of time the process covers or whether an external agent was used or not), this study specifically tested the relationships of PE fit with fairness in the change process and with management support for the change.

Third, a number of researchers have suggested that individuals' dispositional tendencies may affect responses to organizational change (e.g., Judge et al. 1999). In this study, I investigate individual differences in motivational tendencies as an important moderating influence on organizational change – PE fit relationships. The importance of motivation in organizational change research can be traced back to Lewin's (1951) classic model of change. That is, *unfreezing*, the first stage of change, is considered a function of individuals' *motivation* to change. That is, for change to be enacted at the individual level, one must first be willing to abandon old ways and put forth effort to adopt new ones.

Furthermore, events in general, which emphasize the challenge of a novel situation, are likely to engender adaptation effort that varies based upon different achievement orientations. Kanfer and Heggestad (1997) posited that motivational predispositions affect individuals' trait–response linkages. Most researchers in this field distinguish between appetite (*approach*) and aversive (*avoid*) motivational orientations (Kanfer, 2000). To this end, research in organizational behavior is moving toward greater exploration of how person characteristics and person-situation interactions affect

motivation to learn new competencies and sustain work behavior over time (Kanfer & Heggestad, 1997). Therefore, we should expect the motivational orientations to moderate effects of the workplace situation (as defined by the change and characteristics of the change process) on individuals' PE fit.

The relationships studied in this paper are illustrated in the model overview depicted in Figure 1. In a sense, the proposed model and subsequent hypotheses are about effects of change-related conditions (e.g., extent of change) on employees' ongoing alignment with their workplace environment (PE fit), moderated by situational factors (e.g., change processes) and the general motivational tendencies of affected individuals. Specifically, the study investigates

(1) the direct effects of work unit level change on three facets of individuals' PE fit,

(2) the moderating effects of the change process on related facets of PE Fit,

(3) the moderating effects of motivational tendencies on related facets of PE fit, and

(4) the three-way interaction of the two change factors taken together (change by change process) with individuals' motivational tendencies to affect related facets of PE fit.

One key assumption of the model is that the PE fit of employees participating in change will be affected because aspects of the environment side of PE equilibrium are necessarily altered by organizational change. Another key assumption is that employees' PE fit will generally be negatively affected (alignment reduced) as the magnitude of change in the work unit increases unless individual participants make necessary

adaptations to respond otherwise. We can generally expect negative consequences from change at the individual level because the timing and nature of change is often in the best interest of the organization, resulting in asymmetries of motivation to change and benefits of change between organizations and their members (Beer, 1980; Novelli et al.,1995; Wanous, Reichers, & Austin, 2000). As such, what the organization may see as an opportunity to strengthen the business, to take new risks, or to deal with new challenges, employees may view as an unwelcome disruption to their day-to-day activities (Strebel, 1996). However, this study investigates the extent to which it is possible for employees to sustain or improve their PE fit during change because of management's actions (e.g., fair processes and high levels of support) and because of individuals' predisposition related to dealing with change (e.g., *approach* tendencies).

CONCEPTUALIZATION OF PE FIT

For a number of years fit has been seen as a potentially useful explanation of micro-level behavior (O'Reilly, Chatman, & Caldwell, 1991) and considered an important state of the individual with regards to positive organizational behavior (Goodman & Svyantek, 1999; Schneider, 2001). One could say that, in the broadest sense, fit has been the overriding theoretical framework for job satisfaction research over many years, being called "match" by Strong as far back as 1927 (Weiss & Brief, 2002), "need/motive fulfillment" by Vroom (1964), "discrepancy position" by Locke (1969) and "mutual correspondence" by Lofquist & Dawis (1969).

As theories of fit have become more formalized, fit has been described primarily in terms of "compatibility" (Cable & Parsons, 2001) or "congruence" (O'Reilly et al., 1991) between a person and some environmental object (e.g., organization, work group, job). Although there have been some who have questioned whether more fit is always better (e.g.. Goldstein, Ruminson, & Yusko, 2002; Schneider, Goldstein & Smith, 1995), researchers tend to find that higher levels of PE fit, obtained through the selection and socialization of new employees, is generally considered positive for both the organization (Kristof, 1996) and the individual (Schneider, 1987).

In an overview of PO fit, Kristof (1996) posited that fit results when compatibility occurs either in common characteristics between the organization and the individual (*supplementary* fit) or in the supply-demand satisfaction between the two entities (*complementary* fit). Supplementary fit results when employees embody or possess characteristics (e.g., goals, values, attitudes) that are similar to various aspects of their

environment. On the other hand, if the fit is *complementary*, there is another distinction involved, supply-demand congruence. For instance, does the environment supply what the person demands and vice versa? Complementary fit involves equilibrium between elements required for success (e.g., knowledge, skills, and abilities) and needs of the individual (e.g., financial, physical or psychological). Generalizing this conceptualization of fit across the various environmental targets of fit (e.g., job, work group, organization) provides a framework for assessing many dimensions in which organizations and individuals mutually seek common ground in aspects of organizational work life (see Kristof, 1996, for a complete explanation).

While studying PE fit only one facet at a time has left this research fragmented (Kristof, 1996), including all facets at any one time is likewise problematic. Therefore, it is helpful when exploring PE fit within a specific organizational context (e.g., change) to select a subset of facets that represents a relevant and comprehensive, but parsimonious view of PE fit for the domain of interest. Given the historical relationship between socialization and PE fit, as well as the notion that socialization is a form of change in individuals' work life, examining outcomes of the socialization process (e.g., Fisher, 1986) can provide insights into understanding appropriate effects of organizational change on PE fit.

First of all, newcomers must become familiar with several rather "simple facts" about the organization (e.g., rules, pay systems, structures, etc.), which then translate into less obvious aspects of the organization important to the individual (e.g.. norms, values, and goals). Secondly, newcomers must also establish successful and satisfying relationships with their relevant co-workers, which typically means inclusion in a work

group with norms and values different from that of the larger organization. Thirdly, learning the job itself is critical to employee socialization, recognizing that the cognitive aspect of individuals' jobs go well beyond just physical skills to scripts or schemata that help guide them daily through the demands of the job.

In other words, Fisher's (1986) research suggest that when individuals are undergoing entry into an organization (a transition), fit is salient to them at three levels of their work environment: the job, the work group, and the organization. Although it has been rare that researchers attempt to study multiple facets of fit in one study, some exceptions exist.

For instance, Chao, O'Leary-Kelly, Wolf, Klein, & Gardner (1994) conducted a study that included six outcomes of socialization. Their study assessed the level of learning or degree of fit in each of these at various points in time for approximately 600 professionals. Since some of those surveyed changed jobs or organizations, Chao et al. (1994) were able to determine that all outcomes of socialization were not equally influential on individuals' decisions to change jobs or organizations, nor were all outcomes equally affected when individuals changed jobs or organizations. The three most significant socialization outcomes found in their study were the individuals' alignment with their organization's goals and values, the individuals' inclusion in their work group, and the individuals' job proficiency.

Only a few others have attempted to assess multiple facets of PE fit simultaneously in a single study. In one of these studies, Kristof-Brown (2000) compared recruiters' use of applicant's person-job fit versus the applicants' person-organization fit in making hiring recommendations. In another recent study, Cable & DeRue (2002)

sought to demonstrate that different approaches to person-job fit (both needs-supply and demand-abilities), in addition to person-organization fit, were necessary to properly understand the relationship of PE fit with various outcomes such as turnover and job satisfaction. Finally, Kristof-Brown et al. (2002) found that all three aspects of PE fit (job, group, and organization) simultaneously contributed to employees' attitudes and behavior.

Consequently, since consensus for an appropriate subset of facets has yet to emerge, sufficient evidence exits that multiple facets should be considered. Thus, this paper includes the three levels of PE fit that are consistent with Fisher's (1986) categories of socialization outcomes and explicit attempts by others to study multiple facets of fit at one time: person-job (PJ) fit, person-group (PG) fit, and person-organization (PO) fit. Below is a discussion of these facets of fit that subsequently are included as outcomes in the hypotheses developed in the remaining sections.

Person-job fit typically includes the extent to which individuals possess the necessary competencies (KSA's: knowledge, skills and abilities) to successfully complete their job requirements. However, it also encompasses an understanding of what successful completion of the job entails as well as an assessment that the job can be accomplished with sustained levels of normal effort. This state represents a demand-supply *complementary* model where the demands of the job (e.g., KSA's, effort) are compared with the individual's capacity to provide what is necessary for successful completion of the job. This view is in contrast to needs-supply fit that equates the attributes of the job with the individual's needs (Cable & DeRue, 2002; Edwards, 1991). In other words, in this paper PJ fit represents the question, "does the person supply what

the job demands?" Since PJ fit has been found to predict performance, satisfaction and turnover across a variety of jobs (O'Reilly et al., 1991), the importance of sustaining job fit should be particularly relevant in times of novel situations resulting from change.

Person-Group fit is a needs-supply complementary construct that pertains to the social network in the workplace proximal to the individual. Knowing how to "fit in" (Fisher, 1986) and feeling part of the "gang" (Chao et al., 1994) are significant social aspects of the work environment salient to individuals. Thus, perceived PG fit results from how well one's immediate work group meets the individual's need for affiliation (Kristof-Brown et al., 2002). Employees who maintain social support at work tend to cope better with the pressures from their work environment than those who do not (Cohen & Wills, 1985). Also, individuals who are more central to certain aspects of their "at work" network often perform better than others less central (Sparrowe, Liden, Wayne, & Kraimer, 2001). However, few studies have examined antecedents and consequences of person-group fit (Kristof, 1996). While some have studied this area of compatibility by focusing on team goals and norm alignment (Kristof-Brown & Stevens, 2001), for purposes of this paper I have chosen to stay closer to the more inclusionary aspects of this facet of fit (e.g., Chao et al., 1994; Fisher, 1986).

Person-organizational fit is a supplementary model representing the association individuals have with their organization. This aspect of fit represents a positive state for individuals and allows them to respect and feel proud of the organization. When seeking to join an organization, individuals usually desire to embrace their organization's direction, as well as its "ways and means" of fulfilling its purpose (Kristof-Brown, 2000). A positive fit with the organization goes beyond mere compliance to a desire for

association that motivates the individual to act instinctively on behalf of the organization (Goodman & Svyantek, 1999; O'Reilly & Chatman, 1986). Failure to achieve PO fit can lead to undesirable behavior such as turnover (Vandenberghe, 1999; O'Reilly & Chatman, 1986).

Another distinction that must be considered when studying PE fit is whether the fit is *actual* (e.g., O'Reilly et al., 1991) or *perceived* (e.g., Cable & Parsons, 2001). *Actual* fit requires independent measures of the environment and the person. Compatibility is then measured by the size of the variance determined by comparing objective measures of each. *Perceived* fit is a subjective assessment by the person or an observer about the incongruence or incompatibility that exist between people and their environments. The hypotheses in this paper focus on *perceived fit* since it is the feeling of "fitting in" that results in outcomes of change that matter to organizations such as turnover and flexibility (Major, Kozlowski, Chao, & Gardner, 1995), and perceptions of fit are better predictors of peoples' choices than the actual congruence between people and their environments (Cable and DeRue, 2002).

Its important to note that in this study I am interested in individuals' perception of how their PE fit might have changed (e.g., gotten better or worse) as a result of an organizational change initiative. Therefore, for purposes of developing hypotheses in this paper, a positive relationship with PE fit is an adaptation where fit increases while a negative relationship with PE fit would be an adaptation with a perceived reduction in fit. Although the absolute level of PE fit of individuals going into a change may influence the perceived variations in PE fit, the PE fit outcomes that are hypothesized are assumed to be independent of the absolute level of PE fit for individuals prior to the change.

EFFECTS OF ORGNIZATIONAL CHANGE ON PE FIT

This section explores literature on organizational change and develops hypotheses concerning the relationship between organizational change and facets of PE fit. For purposes of this paper, particular attention is paid to levels of analysis and taxonomy issues associated with studying change. For instance, change has typically been viewed at levels distal to the individual that address broader aspects of individuals' work environment (i.e., division, total organization, community, market). However, this paper deals with the first layer of change relative to individuals (their work unit) involving a perspective of organizational change that focuses on changes in the workplace that are the most proximal to individuals (e.g., work unit goals and values and how work gets done on a daily basis). The notion of defining change in this manner is consistent with some who have suggested that organization level changes become contextual stimuli for changes more proximal to employees (Brockner, Wiesenfeld, Reed, Grover, & Martin, 1993).

Taxonomies of change have also been an important issue for studying change. Organizational theorist have classified change as rational or irrational adaptation (Hannan & Freeman, 1984), as reorientation across a variety of dimensions (Tushman & Romanelli, 1985), as continuous (Anderson, Rungtusanatham, & Schroeder, 1994), as discontinuous (Tushman & Rosenkoft, 1992), as punctuated (Gersick, 1988), or as evolutionary (Nelson, 1995). Because research has focused primarily on perspectives of change from the organizational level, there exists little, if any, theoretical basis for the best way to conceptualize change at the work unit level. Thus, when individual reactions to change have been investigated, organizational change has typically been nominally

categorized and studied one change at a time. For instance, studies have been conducted on a policy change in a university (Lau & Woodman, 1995), a restructuring of a large government organization (Wanberg & Banas, 2000), implementation of self-managed work teams (Shapiro & Kirkman, 1999), and downsizing of a Fortune 500 company (Mossholder, Settoon, Armenakis, & Harris, 1999). Yet, other researchers have just referenced the notion that significant change has occurred (Herscovitch & Meyer, 2002; Judge et al., 1999).

Given these issues with level of analyses and taxonomies of organizational change, the *content* theme is conceptualized in this study as change at the level in the organization that is the most proximal to individual employees, the work unit. Thus, the substance of change (content), when assessing change from the individual's perspective, involves "what has changed particularly in my immediate world". Burke and Litwin's (1992) content model of organizational change suggested that characteristics of the organization (e.g., structure, goals, norms, resources) are also characteristics of work units, and we should expect changes in these dimensions of the work unit to affect its members in significant ways. Therefore, *work unit change* will be defined as the changes occurring at the work unit level, which encompass modifications to any or all aspects of work units such as processes, procedures, resources (e.g., budgets, equipment, facilities), direction (e.g., mission, strategy, goals), structure, and culture.

In addition to assessing what has changed, one must deal with the extent or magnitude of change to fully understand its nature. For example, Ashford (1988) noted in her study on individual coping with change, "the more disruption a transition causes, the more adjustments it requires" (p. 21). So for purposes of this study, "mild" or "severe"

manifestations of said work unit changes would make a difference in individuals' reactions.

Yet, what do we know about the relationship between the magnitude or extent of organizational change and PE fit? Mitchell & Lee (2001) suggested that change could be referred to as a "shock to the system" (p. 199). For individuals, these "shocks" are distinguishable events, which are expected or unexpected changes to an ongoing system in which they participate. They further posited that these "shocks" shake employees out of a steady state or challenge the status quo in the way they think about their work environment. Finally, they concluded that the "shock" implies attention getting, and not necessarily a negative effect.

Therefore, some have posited that individuals can be ambivalent toward organizational change (Piderit, 2000) and that the reaction depends upon their coping mechanisms (Lazarus, 1999; McRae & Costa, 1986), such as perceived control (Spector, 2002). Other theories, such as Total Quality Management (Anderson et al., 1994), consider change as events that make things better for both the organization and the individual. Yet, many have viewed change as negative for individuals resulting in resistance to organizational initiatives (Wanous et al., 2000). The discussion below is consistent with the idea that increasing amounts of change, in and of themselves, are essentially negative with respect to facets of PE fit because of the adaptation demands placed on individuals (Pulakos et al., 2000). Although it may be possible that changes in one's workplace environment may enhance PE fit, organizational change will tend to give rise to stress-inducing adaptation demands (Ashford, 1988). Thus, greater amounts of change for individuals participating in an organizational change ought to produce

higher demands on the individuals, which ultimately may affect individuals' equilibrium and perceived compatibility with their environment.

For instance, since dynamics affecting PE fit differ based on the magnitude of change facing newcomers to organizations (Bauer et al., 1998), we would expect similar effects for the magnitude of organizational change on incumbents' PE fit. That is, as the magnitude of change proximal to individuals increases, we would expect increasing requirements for individuals to "unfreeze" old habits (Lewin, 1951), introducing into the work life of individuals new or modified processes and procedures, new people, and/or new ways to deal with familiar people. Moreover, changes in expectations by management (e.g., modified goals) should negatively affect individuals' adaptation to new job requirements resulting from the change by redirecting cognitive resources from the task at hand (Kanfer & Ackerman, 1989). Finally, "over the short term, changes in business processes tend to be disorder generating for individuals because they raise previously settled questions about how work gets done reliably" (McKinley & Scherer, 2000, p. 742). That is, changes in *job* related routines and work process threaten sense making for individuals, increasing their resistance to the change (Ledford, Mohrman, Mohrman, & Lawler, 1990), resulting in a reduced sense of what and how to accomplish one's *job*. Therefore,

Hypothesis 1a: *The magnitude of Work Unit Change will be negatively related to perceived changes in PJ fit.*

In addition, new people, or at least how one relates to familiar people, are likely to affect the social network of individuals participating in change when changes occur in work processes or structures in work units. Thus, the potential for the individual's interpersonal reality to be disrupted increases with higher levels of work unit change. Moreover, when goals, norms, etc. change in work units, it is likely that the way work gets assigned and the way relationships are formed and maintained will create conflict that disrupts individuals' social network stability (Mohrman, Ledford, & Mohrman, 1990). When group members' core values and beliefs about everyday work differ, friction and emotional upset can occur (Jehn & Mannix, 2001). Therefore,

Hypothesis 1b: *The magnitude of Work Unit Change will be negatively related to perceived changes in PG fit.*

Collective goals and norms provide employees with a source of identification with their organization (O'Reilly & Chatman, 1996). This is an important aspect of an individual's work life to the point that individuals are more apt to withdraw when they are not aligned along this dimension (O'Reilly & Chatman, 1986). To the extent that change includes workplace attributes considered important by employees, disconnects between individual and organizational values may emerge (Rousseau, 1998). Finally, significant shifts by the work unit in direction or in resources available or in what is considered normal may signal to the individual new values or priorities for the organization as a whole, thus challenging one's PO fit (Kristof, 1996). Therefore,

Hypothesis 1c: *The magnitude of Work Unit Change will be negatively related to perceived changes in PO fit.*

EFFECTS OF THE CHANGE PROCESS ON PE FIT

The importance of the change process has been the focus of both researchers and practitioners of organizational change (Beer 1980; Moorman, 2001; Nurick, 1982; Quirke, 1996). It is widely accepted in the Organizational Development (OD) literature (Beer, 1980, Quirke, 1996), the justice literature (Brockner, Konovsky, Cooper-Schneider, Folger, Martin, & Bies, 1994; Korsgaard, Schweiger, & Sapienza, 1995; Shapiro & Kirkman, 1999; Weiss, Suckow, & Cropanzano, 1999), and decision-making literature (Locke & Schweiger, 1979) that *how* organizations do what they do matters as much, if not more, than specifically *what* they do. Although there is a variety of ways the "how" of change has been conceptualized, there are two characteristics into which such processes can be categorized that are the focus of this study: fairness in the change process and management's support for the change. Spector (2002)'s research on workplace stress supports this dichotomy of change process characteristics by arguing that fair practices and sufficient management support are two organizational context factors that influence the degree to which organizational demands become stressors on its members. In addition, consistent with Locke & Schweiger's (1979) model of participative decision-making, I posit that these characteristics have both instrumental and affective influences on individuals' adaptive responses to organizational change. Below is a description of these two characteristics of the change process and how the instrumental and affective facets of each affect particular aspects of PE fit when change is initiated by organizations.

Perhaps more than any other aspect of change, how management treats employees during change has received the most attention and has been shown to be a powerful determinant of individuals' reactions to major organizational changes (Beer, 1980; Brockner et al., 1994; Lind & Tyler, 1988). Although there may be a variety ways to view such qualities of the change process, there is a significant body of research suggesting that when change participants perceive that implementation was handled fairly, reactions to the change and to the organization are more favorable (Novelli et al., 1995; Schweiger & DeNisi, 1991; Wanberg & Banas, 2000). Fairness of change processes have included practices such as providing advanced notice of changes and showing respect for the affected individuals (Brockner et al., 1994), being open to and considerate of participants' concerns (Korsgaard et al., 1995), and providing the opportunity to express one's views that can affect ultimate outcomes (e.g., "voice"; Folger, 1977).

As mentioned earlier, because procedural fairness can be both instrumental and affective in nature, fairness in the change process both facilitate (or inhibit) employees' ability to maintain job fit and contribute to individuals' judgements about their fit with the organization. First, negative effects of change on PJ fit should be mitigated when fairness associated with the process is high because participation by affected individuals engenders positive motivational influences and greater perceived control (Locke & Schweiger, 1979). In other words, when changes in work processes modify requirements of employees' job, management can improve individuals' adaptation through fair implementation practices. Through greater striving and commitment by individuals to make necessary adjustments and a greater expectation that they can indeed make the

adjustments because they have more control over the situation, individuals affected by change are better able to maintain equilibrium with their job demands.

The affective consequences of varying levels of procedural fairness in management's actions have been well researched (Brockner, 2002). The basis of this research is that individuals' feelings toward their organization are less negatively affected when organizations take actions that might otherwise affect employees negatively. In other words, the respect that accompanies fair change practices engenders a level of trust and mutual respect in employees for their organization that facilitates congruence between employees and organizations regarding values and goals (PO fit).

However, PG fit should not necessarily be affected one way or the other by fairness in the change process. The typical beneficiaries of the instrumental and affective aspects of fair practices have not been found to include feelings toward the work group or to facilitate inclusion in one's work group. Furthermore, these relationships between the fairness qualities of change processes and facets of PE fit are consistent with the findings of an exploratory study investigating effects of change on PE fit in which fair change processes influenced PJ and PO fit, but not PG (Caldwell et al., 2002b). Therefore, we posit

> Hypothesis 2a: *Fairness in the change process will moderate the relationship between Work Unit Change and perceived changes in PJ fit (H1a). That is, the effect of Work Unit Change on PJ fit will be less negative when fairness is high.*

Hypothesis 2b: *Fairness in the change process will moderate the relationship between Work Unit Change and perceived changes in PO fit (H1c). That is, the effect of Work Unit Change on PO fit will be less negative when fairness is high.*

Although most research attention has been given to the fairness of management's actions, management support is recognized as an aspect of the change process important to the success of change (Quirke, 1996; Beer, 1980). Specifically, management's support exhibited during implementation involves characteristics of the change process such as management commitment, skill training, and sufficient project budgets that enable individuals to respond effectively to change (Beer, 1980; Kotter, 1996). Whereas, as hypothesized earlier, the instrumental effects of fair practices relate to PJ fit and the affective influences relate to PO fit, I will argue that the instrumental factors of management support will also effect PJ fit, but the affective influences will be associated with PG fit, rather than PO fit.

Specifically, Schneider (2002) contends that through informal activities such as coaching, support oriented practices by the leaders are not only about skill learning (PJ fit), but are also about keeping group members together and going in the same direction (PG fit). Moreover, high levels of activities associated with management commitment should ameliorate disruption in person-job equilibrium since they have been found to reduce uncertainty and focus self-regulatory motivation for change (Cummings, Mohrman, & Mitroff, 1990). Within a work group context, coaching has been found to directly affect members' task engagement and their ability to work through interpersonal issues (Wageman, 2001). Since leaders can play a significant role in resolving social

ambiguity early in team development (Kozlowski, Gully, McHugh, Salas, & Cannon-Bowers, 1996), we should expect good management support to contribute similarly when work groups are undergoing change. In summary, aspects of management support (e.g., skill development for job tasks, management's attention and concern for the success of the change, and sufficient resources necessary for change) are directed toward enhancing abilities and situational facilitators necessary for individuals to navigate change successfully (Beer, Eisenstat, & Spector, 1990). Therefore, good support should strengthen the collective camaraderie of the work group and bad support should weaken it.

Although support activities may have some degree of psychological effect on individuals' commitment to the organization, as mentioned above, support by management during change has more of a group focus than an organizational focus. Thus, management support should focus participants' attention on responses more salient to the change (e.g., job and work group) than to the initiator of the change (e.g., organization). As such, the commitment of employees generated by management support would be more of a reciprocal commitment resulting from individuals' duty (normative) than a change in alignment of individuals goals and values with that of the organization resulting from individuals' desire (affective) (Herscovitch & Meyer, 2002). Finally, it is helpful to note that management support, as conceptualized in this study, is in contrast to other views of support, such as Perceived Organizational Support (POS; Rhodes & Eisenberger, 2002). Constructs like POS engender affective commitment and thus improve PO fit of employees because they feel valued and cared for by organizations.

Therefore, through developmental opportunities (instrumental) and a consistent message of "we're all in this together" (affective), high levels of support during change will ease the negative impact of work unit change on PJ and PG fit. These relationships between management support and facets of PE fit are consistent with the findings of an exploratory study investigating effects of change on PE fit where management support influenced PJ and PG fit but not PO (Caldwell et al., 2002b).

Hypothesis 2c: M*anagement Support will moderate the relationship between Work Unit Change and perceived changes in PJ fit (H1a). That is, the effect of Work Unit Change on PJ fit will be less negative when management support is high.*

Hypothesis 2d: M*anagement Support will moderate the relationships between Work Unit Change and perceived changes in PG fit (H1b). That is, the effect of Work Unit change on PG fit will be less negative when management support is high.*

THE EFFECTS OF MOTIVATIONAL ORIENTATIONS ON PE FIT DURING ORGANIZATIONAL CHANGE

As mentioned in the Model Overview section, there are a couple of reasons motivational orientations may influence PE fit. First of all, in Lewin's (1951) classic model of change, the first stage, "unfreezing", is considered a motivational prerequisite for change. In other words, successful change begins with participants' *choice* to leave old habits and comfort zones and to *strive* for new behavioral patterns. Consequently, the first issue for employees regarding effects on P-E fit from change initiatives is not whether they *can* adapt, but are they *willing* to do so.

Second, changes salient to individuals create environments that involve adjustments in individuals' work processes, which elicit behaviors to approach success or avoid failure (Weiss & Brief, 2002). In this regard, and in the tradition of motivational orientations, Heggestad and Kanfer (2000) argued for using motivational traits as stable, trans-situational individual differences in preferences related to *approach* and *avoidance* of goal-directed effort expenditures. Many have used goal orientation to understanding motivational tendencies behind such behaviors, but goal orientation has two significant limitations relative to this study (Heggestad & Kanfer, 2000). First, goal orientation measures are more direct assessments of the types of goals people adopt, rather than psychological processes that give rise to them. Second, goal orientation measures are situationally specific, typically associated with students and classrooms**.**

Furthermore, when individual differences have been included in organizational behavior research, there exist a growing interest in studying these as moderators of situational effects on individuals (Colquitt & Simmering, 1998). For instance, trait-

response linkages are contingent on the situation, suggesting that the psychological meaning attributed to a response is only clear and determinate within the context of the situation (Murtha, Kanfer, & Ackerman, 1996). As such, Judge and Larsen (2001) posited that personality moderates effects of events on individuals' job satisfaction, Herold & Fedor (1998) developed an interactionist perspective related to feedback processing, and George and Zhou (2001) recently extended research on creativity to include the interaction of situational factors and personality as predictors of creative behavior.

Within the organizational change context, we should expect that when there is little change, individual differences should not play a significant role in change-related responses. This is because the situation is fairly stable, thus diminishing the opportunity for the individual's characteristics to shape responses (Mischel, 1973). However, as the magnitude of the change increases, situational ambiguities, uncertainties, and sometimes threat should evoke individual differences as people try to deal with the situation. Therefore, while assuming motivational traits may have direct effects on individuals within a change context, consistent with the dispositionist orientation (e.g., House, Shane, & Herold, 1996), I will focus on investigating the moderating role of these motivational traits when dealing with effects of organizational change. I will now proceed to examine how the motivational traits might interact with change to affect aspects of PE fit.

Approach Orientation

Approach motivation orientation is closely aligned with the achievement goal orientation (Dweck, 1986; Nicholls, 1984), but absent any avoid tendencies (VandeWalle, 1997). In this study, I was particularly interested in how individual's

achievement orientation might influence their changes in PE fit because of the self-regulatory activities associated with this trait (VandeWalle, Brown, Cron, & Slocum, 1999). Literature has argued that Approach orientations play a role in effective self-regulatory activities and task persistency (e.g., Heggestad & Kanfer, 2000), as well an intermediate role in strategy formation (Vermetten, Lodewijks, & Vermunt, 2001). Specifically, the Approach tendency represents an appetite for new skills and knowledge (Kanfer, 2000).

Button, Mathieu, & Zajac (1996) further argued that this disposition also interacts with situational cues. As such, research has found that individuals high in achievement orientations tend to have adaptive response patterns, exerting increased effort when faced with challenging tasks and working through the difficult, ambiguous challenges of change (Burke & Deszca, 1983; Nicholls, 1984). This suggests that high achievement individuals should respond better to extensive change, relative to adaptive alignments with their job demands (PJ fit).

However, the question remains whether approach oriented individuals, as a result of change, will isolate themselves from their work group and their organization, or will the approach tendency engender their ability or willingness to remain or become more central to their work group and aligned with their organization's aspirations? There is a lack of literature on approach orientations to know for sure how this motivation tendency relates to individuals' perception regarding such dynamics. Therefore, this hypothesis remains somewhat exploratory with regards to PG and PO fit.

Approach orientation has been found to relate positively with Extroversion (Kanfer, 2000). This suggests that it is important for high Approach individuals to reach

out to others because of their desire for social closeness. Although there may be some associates that are threatened by high Approach individuals, I posit that it is not only important to Approach oriented individuals to do their job well, but also to get along well with others.

In a study of individual differences within a change context, Judge et al., (1999) found that levels of positive self-concept related positively with individuals' relationship with their organization. Since Approach oriented traits, such as learning orientation, relate positively with an expectancy to perform in novel situations (Colquitt & Simmering, 1998), we might expect high Approach individuals' to maintain a more positive association with their organization's aspirations (goals and values) than their lower Approach counterparts, especially when the extent of change is high.

Therefore, considering all of the above, I posit

Hypothesis 3a: *The Approach orientation will moderate the relationship between Work Unit Change and perceived changes in PE fit. That is, the negative relationship will be reduced when Approach is high.*

Avoid Orientation

Motivation-related anxiety is an avoidance tendency (Kanfer, 2000) defined as a "relatively stable individual difference in anxiety proneness" (Spielberger, Gorsuch, & Lushene, 1970, p. 3). Orientations of this nature represent the tendency of individuals to be fearful of novel situations (Wiggins, 1996) and to experience anxiety reactions across a wide range of achievement-oriented situations, negatively affecting learning (Heggestad

& Kanfer, 2000). Although such anxiety has been studied extensively as experiences such as emotion and clinical disorder (Eysenck, 1997), the influence of anxiety on individuals' responses to change in this paper deals with the trait aspect. Below are three reasons that high Avoid orientation might negatively affect individuals' PE fit when management enacts high levels of change.

First of all, when faced with uncertain and ambiguous situations, such as those created by organizational change, individuals rely on information processing strategies that require substantive elaboration and transformation of external information, a process that is readily *influenced* by moods and emotion (Forgas & George, 2001). For instance, unfavorable emotions (e.g., anxiety) can interfere with individuals' ability to properly interpret activities associated with organizational change (Mossholder et al., 2000). Therefore, when emotions are high in individuals, inaccurate interpretations of the environment are likely, which can negatively affect their understanding the intentions and actions of the organization.

Secondly, Judge & Larsen (2001) reported a positive relationship between negative affectivity and individuals' general dissatisfaction with their environment. Some posit that trait anxiety becomes particularly influential when activated by a stimulus such as change (Weiss & Cropanzano, 1996). Therefore, general dissatisfaction with one's work environment as a result of change should negatively influence individuals' association with other work group members and their alignment with the organizations' new direction.

Finally, negative moods activate a systematic style of thinking, which invokes situational more than internal information (Bless, 2000; Fiedler, 2000). This suggests that

high anxiety individuals may be more distracted by organizational actions (the situation) during change and would not pay sufficient attention to their necessary adaptation demands (e.g., what they need to do to fill emerging gaps with their immediate environment).

In summary, since during times of change individuals that tend to be aversive are likely to misinterpret what's going on, to be generally dissatisfied with what's happening, and to fail to attend to changing demands of their job and attributes of their organization, they should be both less capable and less willing to maintain fit with their aspects of their workplace environment. Therefore, I hypothesize that

> Hypothesis 3b: *Avoid orientation will moderate the relationship between Work Unit Change and perceived changes in PE fit. That is, the negative relationship will be greater when Avoid tendency is high.*

Before discussing additional views of implications of the change situation on PE fit, I will summarize the hypotheses to this point. First, certain characteristics of the change process should weaken the negative effects of change on PE fit. Specifically, high process fairness and management support are expected to reduce the negative relationship between extent of change and PJ fit because of instrumental factors found in each aspect of change process. Because of affective dimensions, high levels of management support should reduce the negative relationship between extent of change and PG fit, and high process fairness should reduce the negative relationship between the extent of change and PO fit. Second, high levels of Approach tendencies are likely to reduce the negative

effects of extensive change on aspects of PE fit, while Avoid orientations should generally strengthen the negative relationship between extent of change and PE fit. Given these expectations, I will proceed to posit a more complex view of the relationships between change, change process, and individual motivational orientations with PE fit.

A MORE COMPLEX VIEW OF THE SITUATION

As mentioned earlier, there is growing interest in considering person-situation interactions in organizations (e.g., Hattrup & Jackson, 1996). One traditional approach suggests that the nature of the situation is a determinant of the extent to which individual differences will impact behavior, such that individual characteristics are behaviorally influential when situations are weak (Mischel, 1973). In earlier hypotheses, it was fairly intuitive to conclude that a high level of change makes for a weak situation since the uncertainty of individuals as to what is normal and expected is increased. Thus, stability in the understanding of one's job responsibilities as well as general behavioral guidelines should be diminished as a result of increasing uncertainties (Leana & Barry, 2000).

The question remains, however, which is the weaker situation, good change process or poor change process. There has been no apparent agreement on this issue, and a full debate is beyond the scope of this paper. Therefore, instead of applying rule-based theory to the characteristics of change process to determine if it is a strong or weak situation (e.g., Mischel, 1973), literature will be examined relative to conditions like change process to determine how characteristics of the change process might interact with respective motivational orientations to affect P-E fit. Furthermore, it would not be sufficient to examine characteristics of the change process absent some understanding of the change. Therefore, it is posited that organizational change, interacting with aspects of the change process, more fully determine the situation and thus, suggest three-way interactions between the change, characteristics of the change process and the person.

First we explore the relationship between characteristics of the change process and Approach by reviewing studies that have examined motivational orientations within the context of situations similar to organizational change processes. For instance, Ryan & Deci (2000) found that individuals high in self-determination tend to be more motivated when behavior is freely chosen and reflects their own values. Thus, high Approach individuals are even more likely to be motivated to adapt during change when treated fairly by management and encouraged to participate. Since high levels of commitment by management conveys to individuals that their participation is important to change success and further provides the necessary resources (e.g., training) to be successful, then high Approach individuals should respond in ways that enhance their PE fit realignment.

Furthermore, studies show that motivational factors similar to Approach traits relate positively with control orientations (e.g., Lee, Sheldon, & Turban, 2001). This suggests that individuals high in Approach should be keenly aware of expectations of authority figures and social standards. Thus, we might expect during high levels of change that this awareness of colleagues would be strengthened when fairness and support are high and reduced when they are low. In other words, individuals high in Approach tendencies should respond more positively when management is committed and heavily involved in the change, as they would be highly motivated to read external cues required for maintaining fit with their job, work group and organization.

This leads to the following hypothesis based on the notion that high Approach individuals tend to shape their workplace environment based on their abilities and preferences when allowed and encouraged to do so.

Hypothesis 4a: *The extent of Work Unit Change, characteristics of the change process, and Approach orientation will interact to affect perceived change in PE fit. That is, the positive effect of good change process (high process fairness and high management support) on the relationship between the magnitude of change and perceived change in PE fit (H2a-d) will be strengthened when Approach is high.*

Also in Lee et al.'s study (2001), motivational pre-dispositions similar to Avoid related positively with both control and amotivated personalities. This particular combination suggests that individuals high in Avoid traits typically feel less willing and capable of controlling external conditions and events. Therefore, PE fit for these individuals would be even more likely to be negatively affected when there is limited communication about what is expected, and they are often guessing about what to do (low levels of fairness). Yet, results from another study in this research stream (Caldwell et al., 2002a) found that highly anxious people (low Emotional Stability) typically responded negatively to change regardless of the fairness in the change process, while high levels of fairness in the change process did improve reactions as emotional stability increased in individuals. Therefore, when change is high, we should expect a favorable change process to have minimal, if any, positive effect on PE fit for high Avoid individuals. Thus, I posit

Hypothesis 4b: *The extent of Work Unit Change, characteristics of the change process, and Avoid traits will interact to affect perceived change in PE fit. That is,*

the positive effect of good change process (high process fairness and high management support) on the relationship between the magnitude of change and perceived change in PE fit (H2a-d) will be reduced when Avoid is high.

CONTROL VARIABLES

Before proceeding to test the specific hypotheses relating organizational change and individual differences with perceived PE fit, we must also recognize tenure as a significant influence on PE fit (Chao et al., 1994). Given that we expect individuals' fit with their environment to normally accrue over time under stable conditions (Chao et al., 1994; Kristof, 1996), there is little known about PE fit in conditions that are changing for employees. For instance, Schneider's (1987) Attraction-Selection-Attrition (ASA) Model suggests individuals simply leave organizations when they do not fit. Yet, others suggest that high tenure may cause misfit overtime because employees with long tenure are less likely to "unlearn" outdated views of their work (Feldman, 1986). Although there is theoretical interest in effects of tenure on PE fit during organizational change, I am not able at this time to posit how tenure might affect such outcomes. Therefore, job and organizational tenure are taken into account as controls.

Closely associated with effects of tenure is individuals' age. The effects of age on employees' response to change has become a topic of growing interest as the aging "baby boomers" have increased the average age of the work force. Conventional wisdom has it that "older workers are more likely to resist change than their younger counterparts." On the other hand, some would argue that the increased experience of older workers provides them with the resources and resiliency to adapt to change (e.g., AARP, 2000). The research evidence on this issue is scant, with the few studies providing contradictory findings concerning the effects of age on employees' success at adapting to change (Parsons, Liden, O'Connor, & Nagao, 1991). Thus, a greater

understanding of the relationships between age and reactions to change is important and increasingly sought. Therefore, age is also included as a control.

Finally, Brockner et al. (1994) found that change negativity is an important characteristic of change that should be considered when studying individual level outcomes from change.

The *consequence* of a change on work unit's success is one way to assess whether participants believe a change is a good one or not. Whereas, Brockner et al. (1994) focused on the moderating role of good change process on the effects of outcome negativity for the individual affected by the change, in this study I will simply control for the confounding effect of change favorability (in essence, the "sign" of change) as observed by the work group.

METHOD

Sample

This study is a part of a larger study using data collected from 36 work units in 21 various organizations within the southeastern United States. These organizations represent a wide range of industry sectors including transportation, technology, consumer products and government. A manager in each organization was asked to identify a change specific to his/her organization that was either well underway or recently completed. It is worth noting that the period of time associated with this study covered the 12 months following the terrorists' attacks on the World Trade Center and the Pentagon. Therefore, although each organization experienced different environmental pressures as a result of this event, the environmental context for the organizational changes was characterized, in general, by economic instability and resource contraction.

Each manager was asked to survey up to 50 people about the change. Notification was made to each potential respondent by the manager either face-to-face or via written communication (e.g., memo or email). In the communication to solicit participation, the specific change being studied was identified, the purpose and nature of the study was explained, and the nature of participation was provided (e.g., voluntary and anonymous). In addition, the participants were given access to a website that contained the surveys and a two-week window to complete their response.

When a participant logged onto the website and selected this particular research project, the nature of the project and consent information was initially provided. The participant was then presented with one of two surveys (the surveys were automatically

alternated among respondents). One survey was designed to capture data on the specific change and organizational change processes (Organizational Change Survey), while the other survey focused on individual differences and reactions to the change (Personal Change Survey). Again, respondents in each organization received only one of the two surveys. The respondent was reminded periodically about the specific change being studied, so that all respondents in a given organization were referencing the same change.

In total, 300 Personal Change Surveys and 283 Organizational Change Surveys were collected. Although surveys were given alternately to participants, the final totals for each survey are not equal because some persons started a survey and did not complete it, or because multiple people signed on the website simultaneously and were given the same survey (note: a survey was not marked "taken" until it was completed). The sample was examined for missing (listwise deletion) or insufficient data (e.g., less than 2 Organizational Change Survey respondents for a given work unit) resulting in one Personal Change Survey response being omitted. The range of respondents per organization varied from 6 to 101 with the median of 21 and mean of 28.4. A total of 1259 individuals were solicited resulting in a useful response rate of 47.4%.

Fifty-four percent (54%) of those participating in the Organizational Survey and fifty-eight (58%) of those participating in the Personal Survey were male. The percentage of respondents in each age category for the Organizational Survey and the Personal Survey were as follows: less than 25 years (3.5% and 5.0%), 26 – 35 years (35% and 32.7%), 36 – 45 years (27.9% and 34.3%), 46 – 55 years (26.1% and 21.3%) and over 55 years (7.1% and 6.3%). Results also show that Organizational Tenure and Job Tenure were similar for both sets of respondents with the 2 – 5 years category being the greatest

percentage for Job Tenure (36% and 37.7% respectively) and for Organizational Tenure (33.9% and 32.7%). Thus, the demographic characteristics of those responding to each survey are similar, providing further evidence that the two surveys were distributed randomly.

Measures

Independent variables, related to the change and the change process, are group level variables representing emergent states. This means that such variables resulted from processes occurring in the work unit that was shared by all individuals (Kozlowski & Klein, 2000). Therefore, these measures were obtained by averaging the responses from the Organizational Change Survey for each of the 36 work units studied. The dependent variables, as well as the individual differences, were collected in the Personal Change Survey and were assessed at the individual-level.

Organizational Change Survey

Since work unit change and the change process variables are theorized as group-level phenomena, there are at least three ways they could be measured. According to Kozlowski & Klein (2000), assessing the perceptions of the individuals comprising the dependent variable set would generate the highest predictive validity since these responses are the most proximal to the individual-level outcomes of PE fit. However, this method would introduce the possibility of response bias, particularly in this study where there would be both common method and same source effects. The affected individuals' responses could be averaged to get a shared perspective. Given that the mean was a valid representation of group membership (agreement and reliability), this would reduce bias

and predictive validity. A third alternative was chosen that was even more conservative. This involved a completely separate set of individuals who were experiencing the same group-level phenomena as the affected individuals to assess the change and how it was implemented. These measures are sometimes referred to as *shared properties* (Kozlowski & Klein, 2000) or *referent-shift consensus* (Chan, 1998) and are aggregated up to the group level from the individual level.

Work Unit Change: Organizations change structures, goals, cultures, and strategies (Hanna & Freeman, 1984; Tushman & Romanelli, 1985), which, in turn, affect work units' workplace attributes and work processes (Burke & Litwin, 1992). Nine (9) items, adapted from earlier studies in our research stream (Caldwell et al, 2002a, 2002b), were used to capture the extent that such aspects of the work unit changed. Items were rated on a 6 point scale ranging from 1 = Strongly Disagree to 6 = Strongly Agree. A list of these items is provided in the Appendix along with the factor analysis exploring the factor composition of Work Unit Change.

Change Process Fairness: This scale was assessed using items developed in earlier studies (Caldwell et al., 2002a, 2002b) that were originally adapted from Leventhal, Karuza, & Fry (1980) dimensions of procedural fairness, such as the extent advanced notice was given, input was sought, and people were kept fully informed. In addition, since the fairness qualities of the change process in this study are a group judgment, the items were worded to reflect the presence of these qualities *as observed by group members*. Items were rated on a five-point scale from 1=Strongly Disagree to 5=Strongly Agree. Specifically, the three items (alpha = .84) used in this study were "*sufficient notice was given to employees affected by the change*", "*those affected by the*

change had ample opportunities for input", and "*the organization kept everyone fully informed during the change*".

Management Support: This factor consists of five (5) items developed in an earlier study (Caldwell et al., 2002b) that captures the degree to which management supported the change process, particularly with resources and demonstrated commitment to the change. This characteristic of the change process has been less researched but is often implied in change implementation models of practitioners (Kotter, 1996; Beer et al., 1990). The five items (alpha = .79) used in this study for Management Support were "*sufficient resources were available to support the* change", "*all levels of management were committed to this* change", "*management dealt quickly and effectively with 'surprises' during this change*", "*there was sufficient management support for this change*", and "*top management was supportive of this change*".

Items were rated on a five-point scale from 1=Strongly Disagree to 5=Strongly Agree.

Consequence of Change: Each change can also be categorized by the consequence it had on affected work units. In this study, the Consequence of Change focused on the degree members of the work unit believed that the change was helpful or harmful to performance of their work unit. Six items were developed to capture this effect (alpha = .80). Sample items for this measure include "this change has made my unit less effective" (reverse coded), and "this change is important for the success of my unit". All ratings were on a five-point Strongly Disagree to Strongly Agree scale.

Personal Change Survey

Motivational Traits: In developing the *approach* construct, Heggestad & Kanfer (2000) found that the two approach traits of *mastery* and *competitiveness* are distinct and

should be accounted for separately. This distinction is based on the individual's drive to develop competency (Mastery) versus the drive to demonstrate competency to others (Competitiveness). Although both traits represent an appetite for achievement, an important distinction relative to the change domain is the difference in cueing. Mastery individuals are internally cued and driven to meet one's own internal standards (internal referent). Competitive individuals are externally cued and driven by the judgments of others (external referent).

With regards to *avoidance* orientation, researchers (e.g., Heggestad & Kanfer, 2000; VandeWalle , 1997) have not empirically distinguished between various causes of avoidance (e.g., fear of failure, emotionality or worry). Thus, we included only one trait construct (Emotionality) to represent avoidance tendencies.

Therefore, the motivational traits included in this study are two approach orientations, *Mastery* and *Competitiveness*, and one trait for avoid (*Emotionality*). These traits were gathered using Heggestad & Kanfer's (2000) Motivational Trait Questionnaire (MTQ). The MTQ originally consisted of a total of 23 items for these traits. However, four items were deleted in this study to reduce the overall length of the survey. The items that were deleted were found in a pre-test of 70 individuals (web surveyed) to be the least effective psychometric items for working adults (lower factor loadings and more oriented to students). Items were rated on a six-point scale from 1=very *untrue* of me to 6=very *true* of me.

Sample items for *Mastery* are "I set high standards for myself and work toward achieving them" and "I compete with myself – challenging myself to do things better than I have done before". Sample items for *Competitiveness* are "I perform best when I

compete with others" and "I try to avoid competitive situations" (reverse coded). Sample items for *Emotionality* are "I have trouble relaxing because I worry about things at work" and "I am able to remain calm and relaxed before I take a test or make a presentation" (reverse coded).

PE Fit Outcomes. According to Cable (personal communication), perceived fit measures are "molar" in nature. That is, they represent individuals' idiosyncratic processing of demands, needs and attributes of the environment relative to themselves in ways that cannot be constructed objectively by researchers' formulae. Using "molar" measures in the context of change, individuals simply express their sense of being more or less "fit" with some aspect of their work environment. As noted earlier, the measures used in this study were selected to capture effects of work unit change on PE fit at three levels of employees' work environment, the job, the work group and the organization. Scales for PJ and PO fit were derived from items used in earlier research to assess antecedents and outcomes of fit (e.g., Cable & DeRue, 2002; Cable & Judge, 1996). Items for PG fit were adapted from limited research on "effects on" and "effects of" PG fit (e.g., Chao et al., 1994; Kristof-Brown et al., 2002). Thus, the dependent variables represent perceived changes in three facets of PE fit and were assessed at the individual-level using the Personal Change Survey. In order to cue the respondents to the focal change, all items had the lead-in of "*As a result of this change* …". Items were rated on a five-point scale from 1=Strongly Disagree to 5=Strongly Agree. Therefore, scores above 3.0 reflect perceptions that the change has made the individual's fit better, while scores below 3.0 mean that change has made the fit worse.

The PJ Fit measure in this study consisted of three items capturing individuals' perceptions of the degree to which their equilibrium with their job demands has been positively or negatively affected by changes occurring in their work unit. The 3 items were: "… *my abilities and training better 'fit' what my job requires*", "… *I am more qualified to do my job than before*", and "… *my skills do not seem to match my job as well as before*" (reverse coded). The third item was dropped due to reliability concerns, and thus a two-item scale was used to measure effects on PJ fit (alpha = .81).

PG fit was measured using three (3) items assessing the degree individuals participating in organizational change were more (less) a part of their work group (alpha = .81). The items for PG fit were "*... I socialize more with the people I work with*", "*... I now feel more like a part of the 'gang' at work*", and "*... I am more comfortable with my co-workers*".

The PO fit scale consisted of four items (Alpha = .74) assessing the degree to which individuals perceived that their alignment with their organizations' goals and values had changed. These items were: *"... my personal values better match my organization's values*", "… *my goals are less aligned with those of my organization*" (reverse coded), "… *I do not seem to fit as well with where my overall organization is going*", (reverse coded), and "… *my personal values and those of the organization have become more similar*".

Tenure: Both Organizational and Job Tenure were captured using categorically constructed answers to the question "time in your present organization (job)?" The available answers were 0 – 6 months, 6 mos – 2 years, 2 – 5 years, 5 – 10 years, over 10

years. Answers were structured in this manner due to anonymity concerns of the respondents.

Age: The age of the Personal Survey respondents was also sensitive to anonymity and was thus captured using five categories. Each of the five categories was assigned a number starting with 1 for "under 25 years of age" incrementing by 1 for every 10 years of age up to 5 for individuals "over 55 years of age".

Analysis

The first step of the analysis was to test various scores of the group level composition variables. The typical scale reliability tests (Cronbach alpha) and factor analyses (exploratory using Principal Components Analysis for Work Unit Change and confirmatory for the two change process variables) were conducted to determine if the scales, as developed from the Organizational Change Survey, represented consistent and differentiated measures. In addition, several tests were run to verify these scales as valid group level measures for this study. One test was the R_{wg} score, the level of agreement among the group members (James, Demaree, & Wolf's, 1984). Then an F-test was conducted on each group level variable to determine if groups significantly differ on these variables, and intraclass correlation coefficients (ICC1 and ICC2) was computed to test the extent that team membership accounted for members' ratings (Bleise, 2000).

Correlations were computed for all variables within their respective level of analysis to determine zero-order relationships within each level (e.g., individual or group level). Since the data was multi-level, correlations must be interpreted carefully due to biased standard errors. Consequently, Hierarchical Linear Modeling (HLM) was used to assess the relationships of the independent variables (nested group and individual level

variables) with the dependent variables (individual-level). HLM provided an appropriate analysis when multiple levels of data was involved by maintaining appropriate requirements of independence for the group level influences (Hofmann, 1997).

The various hypothesized models were tested and interpreted following Snijders and Bosker's (1999) guidelines. Given that there were numerous ways of setting up the combinations of variables in the HLM equations, Snijders and Bosker (1999) established prudent guidelines to follow for model specification. The first four steps represented confirmatory processes aimed at the optimum model representing stated hypotheses, and the last step was considered exploratory. Snijders and Bosker (1999) recommended the following:

1) *Null models* should be specified to determine the unconditional within and between variance of the dependent variables. The larger the proportion of variance that is between group, then the more the data is group dependent, and there exists more opportunity for significant level-2 predictors. Chi-square tests conducted on the level-2 variance will determine the statistical possibility that non-zero between group variance exists to be predicted (p-value < α).
2) A separate model should then be established specifically for testing each proposed hypothesis.
3) All non-significant variables should be dropped from models specified in step 2 to maximize model fit.
4) If there were multiple models for a given dependent variable, build a final model specification for the dependent variable by including all significant

predictors from the previous steps. Any variable failing to remain significant should be dropped to maximize fit of the final model.

5) Finally, any other variables with a theoretical basis should be added to the model for exploratory purposes. All variables that increase model fit should remain in the final model. Otherwise, the variable(s) should be dropped. This exploratory step (not included in this study) could investigate non-hypothesized interactions between the control variables (tenure, age and effect of change), the change variables (extent of change and change process), and the motivational traits.

Centering decisions were consistent with generally accepted guidelines (Hofmann & Gavin, 1998; Raudenbush & Bryk, 2002). That is, the effects of change incremental to that of individual differences were initially tested with grand centering of the level-1 variables. For final model specification, Level-1 variables (individual-level predictors) were first grand mean centered to determine more efficiently any significant cross level interactions. A supplemental analysis was performed for any significant interactions found to partial out the within and between group effects of the interaction (Hofmann & Gavin, 1998). ICC1 was computed for each motivational trait to determine the degree to which there existed significant between group variance. A significant chi-square on the between group variance (tau_{00}) would suggest a likelihood that significant interactions of a motivational trait with a group level variable involved between group influences, requiring a group-centered model (Hofmann & Morgeson, in press). Consistent with these guidelines for model specification and centering decisions, the following specific steps were taken to test the hypotheses proposed in this paper.

Initially, null models or one way ANOVA models were run using full maximum likelihood estimation for each dependent variable. The output from these three runs provided the proportion of variation of the outcome variable attributed to between groups. This value provided direction as to the opportunity for predictive validity of the group level variables. Also, output from the null model provided a value for Deviation (measure of fit between the data and the model specification) and number of parameters estimated so that chi-square test could be run for each hypothesized model to determine increased model fit when adding predictors. This test consisted of applying the chi-square significance test to the difference of the Deviance scores between the models for the degrees of freedom derived from subtracting the parameters estimated in each model.

Multi-level random coefficient models were constructed appropriately for each hypothesis. For instance, for hypotheses 1a, 1b, and 1c, the following model was tested (using Tenure as an example of the control variable):

$$Y_{ij} = B_{0j} + B_{1j}\,\text{Tenure} + r_{ij}$$

$$B_{0j} = G_{00} + G_{01}\,(\text{Work Unit Change}) + G_{02}\,(\text{Consequence of Change}) + U_{0j}$$

$$B_{1j} = G_{10} + U_{1j}$$

where i is the i^{th} person in the j^{th} group and Y is a facet of PE fit.

The hypotheses were supported if G_{01} was positive and significant (t-test).

For the four hypotheses concerning the interaction of change and change process, the following models were tested:

a) $Y_{ij} = B_{0j} + B_{1j}\,\text{Tenure} + r_{ij}$

$B_{0j} = G_{00} + G_{01}$ (Work Unit Change) + G_{02} (Change Process Fairness) + G_{03} (Work Unit Change * Change Process Fairness) + G_{04} (Consequence of Change) + U_{0j}

$B_{1j} = G_{10} + U_{1j}$

where i is the i^{th} person in the j^{th} group and Y is PJ fit.

b) $Y_{ij} = B_{0j} + B_{1j}$ Tenure + r_{ij}

$B_{0j} = G_{00} + G_{01}$ (Work Unit Change) + G_{02} (Change Process Fairness) + G_{03} (Work Unit Change * Fair Practices) + G_{04} (Consequence of Change) + U_{0j}

$B_{1j} = G_{10} + U_{1j}$

where i is the i^{th} person in the j^{th} group and Y is PO fit.

c) $Y_{ij} = B_{0j} + B_{1j}$ Tenure + r_{ij}

$B_{0j} = G_{00} + G_{01}$ (Work Unit Change) + G_{02} (Management Support) + G_{03} (Work Unit Change * Management Support) + G_{04} (Consequence of Change) + U_{0j}

$B_{1j} = G_{10} + U_{1j}$

where i is the i^{th} person in the j^{th} group and Y is PJ fit.

d) $Y_{ij} = B_{0j} + B_{1j}$ Tenure + r_{ij}

$B_{0j} = G_{00} + G_{01}$ (Work Unit Change) + G_{02} (Management Support) + G_{03} (Work Unit Change * Management Support) + G_{04} (Consequence of Change) + U_{0j}

$B_{1j} = G_{10} + U_{1j}$

where i is the i^{th} person in the j^{th} group and Y is PG fit.

Each hypothesis would be supported if G_{03} was significant. If the level-2 interaction predictor was significant, the equations were graphed (raw centered and excluding Tenure) to determine if the effects of change process produced the hypothesized relationships.

Testing the two hypotheses for moderating effects of motivational traits (H3 a & b) involved cross-level interactions. For these hypotheses, the following models were tested:

a) $Y_{ij} = B_{0j} + B_{1j}$ Tenure $+ B_{2j}$ Mastery $+ r_{ij}$

$B_{0j} = G_{00} + G_{01}$ (Work Unit Change) $+ G_{02}$ (Consequence of Change) $+ U_{0j}$

$B_{1j} = G_{10} + U_{1j}$

$B_{2j} = G_{20} + G_{21}$ (Work Unit Change) $+ U_{2j}$

where i is the i^{th} person in the j^{th} group and Y is a dimension of PE fit.

b) $Y_{ij} = B_{0j} + B_{1j}$ Tenure $+ B_{2j}$ Competitiveness $+ r_{ij}$

$B_{0j} = G_{00} + G_{01}$ (Work Unit Change) $+ G_{02}$ (Consequence of Change) $+ U_{0j}$

$B_{1j} = G_{10} + U_{1j}$

$B_{2j} = G_{20} + G_{21}$ (Work Unit Change) $+ U_{2j}$

where i is the i^{th} person in the j^{th} group and Y is a dimension of PE fit.

c) $Y_{ij} = B_{0j} + B_{1j}$ Tenure $+ B_{2j}$ Emotionality $+ r_{ij}$

$B_{0j} = G_{00} + G_{01}$ (Work Unit Change) $+ G_{02}$ (Consequence of Change) $+ U_{0j}$

$B_{1j} = G_{10} + U_{1j}$

$B_{2j} = G_{20} + G_{21}$ (Work Unit Change) $+ U_{2j}$

where i is the i^{th} person in the j^{th} group and Y is a dimension of PE fit.

Each hypothesis would be supported if G_{21} was significant. If the level-2 "slopes as outcomes" predictor was significant, the equations were graphed (raw centered and excluding Tenure) to determine if the effects of change process produced the hypothesized relationships.

Finally, testing the hypotheses where the change situation is the interaction of the change with the change process (H4 a & b) involved the following HLM models:

a) $Y_{ij} = B_{0j} + B_{1j}$ Tenure $+ B_{2j}$ Mastery $+ r_{ij}$

$B_{0j} = G_{00} + G_{01}$ (Work Unit Change) $+ G_{02}$ (Change Process Fairness) + G_{03} (Work Unit Change * Change Process Fairness) $+ U_{0j}$

$B_{1j} = G_{01} + U_{1j}$

$B_{2j} = G_{20} + G_{21}$ (Work Unit Change) $+ G_{22}$ (Change Process Fairness) + G_{23} (Work Unit Change * Change Process Fairness) $+ U_{2j}$

where i is the i^{th} person in the j^{th} group, Y is a dimension of PE fit and Mastery is grand-mean centered.

a) $Y_{ij} = B_{0j} + B_{1j}$ Tenure $+ B_{2j}$ Mastery $+ r_{ij}$

$B_{0j} = G_{00} + G_{01}$ (Magnitude of Work Unit Change) $+ G_{02}$ (Management Support) $+ G_{03}$ (Magnitude of Work Unit Change * Management Support) $+ U_{0j}$

$B_{1j} = G_{01} + U_{1j}$

$B_{2j} = G_{20} + G_{21}$ (Magnitude of Work Unit Change) $+ G_{22}$ (Management Support) $+ G_{23}$ (Magnitude of Work Unit Change * Management Support) $+ U_{2j}$

where *i* is the ith person in the *j*th group, Y is a dimension of PE fit and Mastery is grand-mean centered. Similar models were tested for Competitiveness and Emotionality.

These hypotheses were supported if G_{23} was significant.

If the level-2 "slopes as outcomes" interaction predictor (G_{23}) is significant, the equations were graphed (raw centered and excluding Tenure) to determine if the effects of change process produced the hypothesized relationships. With 3-way interactions, graphing involved the following:

1) Disaggregate the group level variables (work unit change, change process fairness, and management support) by attaching the mean value for each group to each individual respondent of the group in the individual level SPSS file.
2) Split the individual level SPSS file on the median for the appropriate change process variable (Change Process Fairness or Management Support).
3) Run OLS regression on the respective dependent variable for low change process producing a graphical equation of the interaction between work unit change and the motivational trait when change process is low. Repeat for high change process. The two equations (one for low and one for high process) were then graphed to assess hypothesized effects.

Finally, the model specifications for H3 (a & b) and H4 (a & b) involved cross-level interactions and thus were additionally tested using group-mean centering of the motivational traits. When the level-1 predictor was group-mean centered, the group mean for the level-1 variable and the group mean interaction with the level-2 predictor was also

entered in the level-2 "intercepts as outcome" equation so that between group influences were accounted for in the model. If there were no significant between group effects, the final model specification will use the more efficient grand-mean centered level-1 predictors (Hofmann & Gavin, 1998).

A couple of final thoughts on the analysis are warranted. First, basic guidelines for evaluating adequate statistical power to test these hypotheses were provided by Hofmann (1997). When there are no cross-level interactions (H1 & H2), the rule of thumb for power of .90 is the basic 10-1 rule for OLS. Thus, H1 has strong power and H2 has slightly less, but still good power. Power for cross-level predictors are more problematic. Hofmann (1997) found only a couple of studies that investigated statistical power for cross-level models. The general rule is that .90 power requires 30 groups with 30 members and that more groups is better than more members per group. In general, we would expect then that statistical power for H3 and H4 would be less than .90 (36 groups with average of 8.3. per group). However, Snijders and Bosker (1999) demonstrated that power is also a function of the intraclass correlation coefficient. That is, given a fixed total sample size, the higher the value for the intraclass correlation, the less the need for members per group. For instance, if the sample size is 400 and the intraclass correlation is between .05 and .20, then the optimum group size is 9 to 12. It should be noted that many HLM studies currently being published are finding significant results with average group sizes less than 15. Moreover, Snijders and Bosker (1999) demonstrated that the lower the intraclass correlation is for the level-1 predictors (motivational traits), then the standard error can be minimized with less groups (e.g., for intraclass correlation = .00, then 5 groups are sufficient).

Another nuance of this analysis should also be noted. This sample has three levels when work units within organizations are considered. Therefore, it was necessary to explore the independence of work units within organizations by running HLM3, which would determine if there existed any significant "between organization variance" for the outcome variables of PE fit.

RESULTS

Given the multiple dimensions of change discussed above, the first step of the analysis was to determine if the Work Unit Change construct was one or more factors. Exploratory factor analysis using Principal Components Analysis (Varimax Rotation) suggested a two-factor solution for Work Unit Change (see Appendix). The primary factor included six items and was labeled Workplace Change based on the content of the items (per Burke & Litwin, 1992). The second factor included 3 items and was labeled Work Process Change because this measure focused more precisely on the change in how work was processed within the work unit. Although two items dealing with the Workplace Change (items 5 and 6) cross-loaded, they were maintained in the Workplace Change scale for theoretical and consistency reasons. Both work unit change measures had a reliability alpha of .77.

Confirmatory factor analysis on the two characteristics of the change process provided evidence for the expected two-factor solution. Fit statistics from LISREL 8.51 included Chi-square = 36.08 with 19 degrees of freedom (p = .018), Root Mean Square Error of Approximation (RMSEA) = .057, and Comparative Fit Index (CFI) = .98.

The median R_{wg} score for the groups' assessment of the characteristics of the change and how it was handled were all greater than .70 (Janz, Colquitt, & Noe, 1997). Univariate ANOVA conducted on each group level variable found significant between group effects (Consequence of Change, F=2.81, Work Process Change, F=3.37, Workplace Change, F=2.16, Change Process Fairness, F=5.11, Management Support, F=3.21; d.f. = 35). Furthermore, ICC1 scores (14% to 32%, table 1B) meant that a

considerable amount of the variance in the group variables was attributed to group membership. Reliability scores for the five group-level variables (ICC2) fell between .56 and .79 providing evidence that three of the five measures differentiated groups in a reliable way. The two measures (Workplace Change and Consequence of Change) with high R_{wg} and lower ICC2 (below .70) represent aspects of the sample where there was homogeneity among groups in conjunction with strong agreement. The other three measures have strong agreement and significant heterogeneity. Finally, a three-level HLM (HLM3) was run on the 36 work units nested in 21 organizations resulting in ICC1 scores of 0 at the highest level (between organization) for the dependent measures. Thus, HLM analyses to test the hypotheses were conducted only on two levels (36 groups consisting of 300 individuals).

Table 1A provides the zero order correlations for all individual-level variables, while Table 1B shows the correlations among the group-level variables. From Table 1A, we see that the Means of the PE fit elements (PJ = 3.09, PG = 2.89, PO = 3.22) were significantly different from each other ($p < .01$, one sample T-test). This finding provided evidence that reaction to change in different aspects of PE fit were not the same, although the positive correlation between the PE fit elements suggested that perceived change in facets of PE fit move in tandem. Age and Organizational Tenure related modestly and negatively with the outcome variables. Job Tenure did not relate with realignments in PE fit. Therefore, Organizational Tenure and Age were used as individual level control variables in hypothesis testing. Interestingly, Age relates positively with one approach trait (Mastery, .15) and negatively with the other (Competitiveness, -.18). Only one PE fit facet (PO fit) relates directly with motivational orientations (Mastery .19 and

Emotionality -.18). This finding of low correlation between individual differences and PE fit outcomes supports our interest in evaluating effects on fit of interactions between motivational orientations and change factors.

Within the group-level variables, Consequence of Change has a significant positive relationship with both aspects of the change process (Change Process Fairness, r = .43 and Management Support, r = .51). Further, the extent of Work Process Change is modestly correlated with the characteristics of the change process (Change Process Fairness, r = .27 and Management Support, r = .16). The two dimensions of the change (Work Process Change and Workplace Change) correlated at .45 showing additional evidence of discriminant validity of the two dimensions of change. Regarding the dimensions of the change process, although Change Process Fairness and Management Support have significantly different means (2.68 vs. 3.09), they were positively correlated at .51 signifying that these two characteristics of the change process occur somewhat in tandem.

The preliminary analyses (the unconditional model) resulted in an ICC1 of .12 for PJ Fit, .00 for PG Fit and .10 for PO Fit. This means there is a reasonable amount of between group variance in two outcome variables, but the PG fit reactions were independent of group membership (Bliese, 2000). Below is a discussion of the results of model specifications for hypotheses testing. Specifically, Table 2 provides the results from the HLM analyses for PJ Fit, Table 3 provides results of HLM analyses for PG Fit, and Table 4 provides results of HLM analyses for PO Fit.

Step 1 of each analyses provided the following main effects: extent of Work Process Change had a positive effect on PJ Fit (.11, $p < .05$) and PG Fit (.07, $p < .10$),

Age had a negative effect on PG Fit (-.12, $p < .05$), and Organizational Tenure had a negative effect on PO Fit (-.09, $p < .05$). When significant, the sign of the extent of change on PE fit was opposite that hypothesized. Thus, after considering control effects, hypothesis 1, suggesting that the magnitude of work unit level change negatively related to PE fit adaptation, was not supported.

Step 2 of the analyses provided results of the hypothesized interactions between change and change process. Significant results were found only for the effects on PO fit of the interaction between Change Process Fairness and Work Process Change (Hypothesis 2b). Support for the hypothesis must be determined by graphing the interaction (see below).

Step 3 of model specification added the direct effects of the three motivational traits. Only the group level interactions (change by change process) that were found to be significant in step 2 were carried forward in Step 3. Although main effects were not hypothesized, this step was included to establish any direct effects of the motivational traits when taken together and when change factors were also included. Here we found Mastery was positively related to PJ fit (.11, $p < .05$) and PO fit (.18, $p < .01$), and Emotionality was related negatively with PO fit (-.11, $p < .01$). Moreover, when motivation traits were included, effects of Age became significant (PJ fit, coeff = -.10, $p < .05$; PO fit, coeff = -.09, $p < .10$).

Step 4 was the final model specification testing all remaining hypotheses. The results for PJ fit show the significant interaction of approach traits were with the characteristics of the change process, not the change itself (H3a). Specifically, Mastery moderated Change Process Fairness (-.12, $p< .01$) and Competitiveness moderated

Management Support (.12, $p < .01$). These results offer no support for hypotheses 3a, 3b, and 4b and limited support for 4a. Although there was not a significant 3-way interaction between change, the change process and approach motivational tendencies, the characteristics of the change process and approach traits interacted independently of the extent of the change. Moreover, these interactions provided limited support for the hypothesized effects of both characteristics of change process (process fairness and management support) on PJ fit (H2a & H2c).

Per Hofmann and Gavin (1998), a post analysis was conducted to determine if the two-way interactions between the Approach traits (Mastery & Competitiveness) and the characteristics of the change process (Change Process Fairness & Management Support) were primarily a result of between or within group effects (Table 2, step 4). This was accomplished by group-mean centering the individual-level traits and including group mean variables along with the interaction terms associated with group-level means and group level predictors in the level-2 "intercepts as outcome" equation. Both between and within group effects were found to significantly contribute to each of the two cross-level interactions affecting PJ fit.

The interactions between Approach motivational traits and characteristics of the change process relative to PJ fit are illustrated in Figures 2 and 3. First, we see that the effects of Change Process Fairness was moderated by Mastery (Figure 2), such that the greatest difference in PJ fit adaptation existed only when Change Process Fairness was low. This suggests that it was the absence of procedural fairness activities during change (e.g., poor communication and limited or no voice), not the presence of procedural fairness activities, that evoked the role of high Mastery tendencies so that these

individuals would better adapt to job fit challenges during change. This represents a condition (high Mastery individuals) that contradicts hypothesis 4a.

Figure 3 illustrates another interaction between approach orientation and change process. Here we see that Management Support was moderated by Competitiveness, such that Management Support related positively with PJ fit when Competitiveness was high (partial support for H4a). Another perspective taken from the graph shows that when management was not supportive of the change (e.g., not committed to or not providing sufficient resources for the change), high levels of Competitiveness resulted in deterioration of PJ fit, while not so for their low competitive counterparts. This is opposite what was hypothesized in H4a.

The results for the final model specification for PG fit are found in Table 3, step 4. These results show that the avoid trait (Emotionality) interacted with the extent of Workplace Change (H3b). Post analysis (group mean centering Emotionality) showed that this effect was significant only for the between group effect. Moreover, there existed a 3-way interaction involving Work Process Change, Management Support and Approach orientation (Competitiveness). This finding provides support for H4a and limited support for H2d, which posited a relationship between Management Support and PG fit under conditions of high amounts of change. In addition, this 3-way interaction subsumes the main effect of Work Process Change found in step 1.

To interpret the interactions affecting PG fit, I first show that the Avoid tendency (Emotionality) moderated the extent of Workplace Change (Figure 4), such that high Emotionality increased PG fit as the extent of workplace change increased (opposite what was hypothesized, H3b). Since this was a between group effect, this may suggest that

high levels of Emotionality (on average for a work unit) influenced individuals within the work unit to seek group members' support and to come together more than individuals in low Emotionality work units as change in structure, goals, and leadership became more extensive. The 3-way interaction posited in hypothesis 4a is illustrated in Figure 5. These graphs show that low competitive individuals increasingly sought inclusion with members of their work group as change in work processes and procedures became more extensive, regardless of management's support. However, if an individual was high on Competitiveness, then the level of management support was crucial for PG fit adaptation as the extent of change increased.

Step 4, Table 4 represents the final model specification for PO fit. These results show an interaction between avoid orientation (Emotionality) and the extent of change (Workplace Change). This finding supports Hypothesis 3b, which posited that avoid orientations moderate the negative effects of change on PE fit. Post analysis (group mean centering Emotionality) found that this interaction was significant for within group effects only.

Illustrations of the interactions affecting PO fit are provided to support the interpretation of the findings. Figure 6 depicts the moderating effects of Change Process Fairness on the influence of increasing amounts of work unit process and procedure change on PO fit. This graph shows a contradiction to H2b, which posited that high levels of procedural fairness would reduce negative effects of change on PO fit when the extent of change was high. Here we see that the positive relationship between Change Process Fairness and PO fit existed only when the extent of change was low. Like PG fit, effects of Workplace Change on PO fit was moderated by the Avoid trait (Emotionality).

However, the interaction reflects that the main effect of Emotionality on PO fit occurred only when there was a low amount of change in work unit's climate (Figure 7). Thus, a greater tendency to be distracted by anxiety about outcomes (high Emotionality) engenders more deterioration in PO fit when change in structure, leadership, and goals was not perceived by the work unit to be extensive. Although the Avoid trait had a negative effect on PO fit, this finding was somewhat different than hypothesized in that I posited the weakening effect of the avoid orientation to occur when the extent of change was high, not low.

DISCUSSION

This study was designed to investigate the impact of organizational change on PE fit. It was intended to be a first step in bringing these two important areas of research together in order to further our understanding of what happens to PE fit during times of organizational change, thus providing help in explaining individuals' reactions to organizational change. At the present time, we do not know much about what happens to employees' fit with their jobs, their work groups, or their organizations beyond the early socialization stages of organizational membership. Yet, in the face of organizational changes individuals may very well experience changes in PE fit.

In general, the most important finding of this study was that if one focused only on the extent of change or the process of change implementation, one would conclude that organizational change does not have a meaningful impact on PE fit. However, when taken together, and in conjunction with individuals' characteristics, these aspects of change are important predictors of individuals' perceived changes in PE fit. In other words, different individuals seem to confront, or interpret change situations as consisting of both the nature of the change (extent) and the implementation practices used to affect the change. It is this combination in conjunction with individuals' predispositions that leads to perceptions in changes of person-environment fit. This result points to the complex nature of organizational change with respect to individuals' ability or willingness to adapt their PE fit when their immediate workplace environment undergoes a transition.

In addition, there are at least two specific implications of the results worth noting. This study contributes to the literature by furthering the understanding of (1)

characteristics of the change process and (2) the role of motivational orientations in an adaptive domain.

Understanding the Change Process-PE Fit Relationship

First, consistent with the literature (e.g., Spector, 2002) and the hypotheses set forth in this study, the change process was found to have at least two factors: the level of procedural fairness and management support. This distinction was evidenced in both confirmatory factor analysis and the differentiating relationships with facets of PE fit. Specifically, management support was related to PJ and PG Fit and procedural fairness with PJ and PO fit. Since PJ fit is more cognitive and skill based, these findings suggest that management support and process fairness may both be instrumental in aiding individuals to realign with changing job demands. On the other hand, only process fairness was related to PO fit and only management support was related to PG fit. The results showing effects of the change process on PO fit were consistent with the literature on procedural fairness, which has suggested that individual level affective consequences of procedural fairness are directed at the organization (e.g., Brockner, 2002; Cobb et al., 1995; Novelli et al., 1995). However, the result showing effects of change process on PG fit is an extension of the OD literature by providing a new understanding for management support, which has rarely been included in empirical studies of change process models.

There are a couple of nuances worth noting about effects of these characteristics of the change process found in this study. First, management support for the change, as manifested in managements' commitment to the change and provision of resources sufficient for the change, is particularly important for highly competitive individuals participating in the change. With regards to both PJ (Figure 3) and PG fit (Figure 5),

positive adaptation for high Competitiveness employees only occurred when management support for the change was high. In addition, if support was low, competitive individuals perceived themselves as having reduced fit with their job and having become more isolated from their work group (negative PE fit adaptations). This indicates the delicate nature of highly competitive individuals and has implications for individual and team performance when the team is undergoing change.

Second, the fairness level in the change management practice interacted with an approach trait to affect PJ fit (Figure 2) and the extent of change in work processes and procedures to affect PO fit (Figure 6). In the case of PJ fit, Mastery seemed to make up for the lack of management's fair practices. That is, high Mastery individuals made positive adaptation with their job demands when procedural fairness was low, whereas low Mastery individuals did not. This may mean that self-determination of high Mastery individuals with respect to job demand adaptation (Ryan & Deci, 2000) is more "active" when there is low "voice" in the change process, not high. This response may be due to the internally cued self-regulatory tendencies of high Mastery individuals allowing them to work through challenging, ambiguous conditions regardless of the help they receive from others (Nicholls, 1984).

This finding suggests two possible applications for management. One has to do with the selection of individuals with high appetites for achievement (e.g., high Mastery). This may provide a "safety net" for management when faced with change and as such, allow organizations to overcome a potentially negative impact on fit of their employees that would have been caused by failure to exercise procedurally fair change processes. A second, and more advantageous consideration, is that management can overcome

negative PJ fit consequences of change for those with low Mastery by including them in the process, communicating in advance what is expected, and providing a good rationale for the change.

Although it was hypothesized that the Change Process Fairness would moderate the effects of the extent of change on PO fit, it was not expected that the most significant positive relationship between fair process and PO fit would occur when change was low (Figure 6, left endpoints). This finding suggests that low levels of change in how work unit processes were conducted may have been interpreted by individuals as attributes of the organization. Evidence for this may be found in the positive relationship between Work Process Change and PJ Fit, which evidenced that extensive changes in work unit processes tended to be welcomed by employees. Another possible explanation for this result is that low fairness and low change taken together may have signaled to individuals that the organization was incompetent in keeping pace with the changing environment, thus negatively impacting the individuals' respect for the organization. This may be true particularly for this sample, which was taken during the months following the terrorists' attacks on the U.S. when the economic environment became quite constraining to organizations, and employees came to expect that their organizations would and should make significant modifications to their business practices.

Understanding the Motivational Orientation-PE Fit Relationship

Further, this study provided research on motivational orientations in a domain other than learning performance. In this case, as expected, the results indicated that high levels of approach predispositions (e.g. Mastery and Competitiveness) provided positive influences on PE ft adaptations. However, as discussed above, this relationship with PJ

and PG fit was evidenced only when the level of procedural fairness was low (Mastery, Figure 2) or when management support was high (Competitiveness, Figures 3 & 5). The positive relationship with PO fit was a positive and direct effect and was found only for Mastery. Thus, taking these findings together, high levels of approach orientation should be considered a positive influence on PE fit adaptations.

One exception worth noting occurred for PG fit for individuals low in Competitiveness (Figure 5). In this instance, PG fit related positively with the extent of Work Process Change regardless of the level of management support for the change. This finding suggests that low competitive individuals may seek support from each other (in lieu of managements' support) during extensive changes to the way work gets accomplished in their work unit. Some support for this may be found in research by Heggestad and Kanfer (2000) that has shown low competitive individuals were more likely to be high in Agreeableness (e.g., trusting and compliant). Questions still exist as to whether this reaction from low competitive individuals is typical or another outcome from the unique organizational setting following September 11, 2001. This was an interesting result worth further investigation.

With regards to avoid motivational tendencies, the results were somewhat surprising. On one hand, the avoid trait used in this study, Emotionality, did relate directly and negatively with PO fit and moderated the effects of change on PG and PO fit. Furthermore, because changes in the work unit's structures, leadership, and goals may involve more sense making by those affected than changes in the way work gets accomplished, it was not surprising that Emotionality interacted with Workplace Change rather than Work Process Change. However, the interpretations of these interactions were

different than was originally expected (Figures 4 and 7). Contrary to what has been previously found for avoid tendencies in performance domains (Kanfer, 1990), this study found that it was individuals who were low (not high) on general anxiety tendencies where PE fit deteriorated as change increased. This suggests that in the case of socially related fit adaptations, such as PG and PO fit, the tendency of individuals to be apprehensive or concerned may positively motivate them to adapt more readily than their lower anxiety counterparts when high levels of change occurs in their workplace environment. Perhaps, low avoid individuals may not care enough about external cues or be overly self-monitoring to make adaptations necessary to remain fit with their work group and the organization. This result should stimulate researchers to further investigate avoid orientations in socially adaptive domains.

LIMITATIONS AND FUTURE CONSIDERATIONS

Like all empirical studies, this one has both strengths and weakness. As for its strengths, I was able to assess conditions of organizational change and individuals' fit responses using independent sources. This removed a serious confound that could have significantly compromised the results. The generalizability of the results is enhanced over most studies of change. Unlike many other studies that focus on one particular change (e.g., a layoff) that might be relatively idiosyncratic, this sample represented a heterogeneous set of many changes. Moreover, the number of respondents helped to reduce the effects of spurious bias. In addition, finding interactions both across levels and within group level predictors helps alleviate concerns that those responding to the Organizational Change Survey were subject to linear response biases.

However, the sample has some limitations. For instance, I recognize that I was only able to tap a limited number of change and change process characteristics (2 for each). Future research needs to further define the characteristics of change and change process given that generalizable dimensions are the key to cross-change studies. In addition, the participants reporting on each change were not randomly selected. I relied on each contact manager to solicit respondents, but I did use automatic distribution to control who would receive a particular survey. If each manager purposefully chose to solicit only those individuals favorable or unfavorable to the change, this would have limited variance available to be found in the study. Therefore, the impact of change and change process may be greater than the results indicate. On the other hand, given that ratings of potentially biased respondents would most likely affect Change Process Fairness, Management Support, and Consequences of Change, the means of these

variables do not appear to support such bias (Change Fairness = 2.68, Management Support = 3.09, Consequence of Change = 3.13).

I also recognize that the measurements of multiple perceptions run a risk of underlying dimensions from domain overlap. However, I do not believe this is a serious confound in this study since people that responded to the Organizational Survey were focusing on the actions of the organization, whereas the people who responded to the Personal Survey were focusing on themselves. Also, individual level influences coming from the same source as the outcomes consisted of an established instrument (MTQ) for measuring dispositions and an objective measure for demographics (tenure and age).

Another study consideration is that respondents were surveyed concerning organizational changes during the period following September 11, 2001 terrorists attacks. This particular point in time was one where employees may have been expecting extensive changes. Thus the findings need to be interpreted with some caution given the unusual circumstances surrounding organizational change at the time of this sample, and the implications this may have had on employees' reactions.

Finally, since change is dynamic and occurs over time, a longitudinal study capturing absolute levels of fit at strategic points in time would further enhance our understanding of how change relates to various fit dimensions. Potentially, this would also afford the opportunity to control for absolute levels of PE fit prior to the change and identify possible ceiling effects on changes in PE fit.

This study was simply a starting point for investigating the many influences on PE fit that may be associated with change in individuals' work environment. I have focused only on one aspect of change proximal to the individual, those occurring at the

work unit level. Organizational changes can also create person-specific changes that vary by individual. Furthermore, when organizations change, there exist context variables that might influence individuals' reactions through interactions with the change and the process of implementing the change. Armenakis and Bedian (1999) found the *context* for change to be a major theme in research on organizational change in the 1990's. According to their review, *context* deals with forces on or conditions of the change.

For instance, Johns (2001) contends that internal context might be responsible for explaining why a change initiative was not successful in spite of sound tactics by change agents. Therefore, its conceivable that other influences, such as changes in the organization's environment (external turbulence), extent of other concurrent changes (internal turbulence), social support provided by the organization, Leader-Member Exchange (LMX), and various incentives to change could affect individuals' willingness and ability to maintain PE fit during times of change. Future research should certainly build upon influences of organizational change by investigating contextual effects such as these.

Although individual differences were included in this study to provide an interactionist perspective (per Hattrup & Jackson, 1996), only motivational traits were considered. We must recognize that although traits are more distal to outcomes of situations than states, both categories of individual differences can be influential (e.g., Chen, Gully, Whiteman, & Kilcullen, 2000). Therefore, other individual differences, which have theoretical linkages to outcomes of change, such as PE fit, need to be considered in further exploration.

For instance, there was evidence that age and organizational tenure have effects on PE fit adaptations. Since the literature is unclear on such effects (Parsons et al., 1991), research should explore the effects of interactions of these individual differences with change factors on PE fit. In other words, would lower levels of flexibility (AARP, 2000) or perceived control (Heckhasuen & Schuiltz, 1998; Wanberg & Banas, 2000), and higher levels of cynicism (e.g., Wanous et al., 2000) or transitional experience (e.g., Grey & Corlett, 1984) of older and more tenured employees reduce or increase the benefits of favorable change process, or increase their vulnerability to dramatic, punctuated change?

In addition, coping mechanisms are transitory individual characteristics that have been found to relate to individuals' relationship with their organization following times of change (Judge et al., 1999). In addition, individuals' cynicism toward their organizations' ability to change successfully can affect their willingness to make adjustments required of them by the organization (Wanous et al., 2000). We can speculate from attribution and social cognitive theories that willingness to adapt may also be affected by individuals' judgment of "who's to blame" for the situation or by their confidence in generally navigating change successfully (e.g., general change self-efficacy).

Finally and most importantly, research in this area should be expanded to consider PE fit adaptations as mediators of other outcomes from change in an organizational setting. Weiss and Cropanzano (1996) posited that assessments of congruence are aspects of the primary appraisal of events, thus psychological antecedents to other individual level reactions. Since fit is a construct based on congruence, might PE fit (at least perceived fit) engender judgmental and emotional reactions to workplace change? Furthermore, since many outcomes from change and PE fit are similar (e.g., resistance,

job satisfaction, commitment, and turnover), should we expect effects on PE fit from organizational change to be intermediate influences of change on attitudes and behaviors resulting from change? Further research would be helpful in understanding effects of change on individuals and provide further insight on productive change process tactics.

CONCLUSION

Although studies of both organizational change and PE fit have been extensive and increasing, it is somewhat surprising that an understanding of the effects of one on the other has not been more fully developed. Both organizations and individuals invest significant energy and resources into initially finding and establishing fit with each other, only to have it possibly threatened at some later point in time by actions of management, which are likely to be asymmetrical in motivation and benefit. Therefore, there are emerging research interests in each of the fields of organizational change and PE fit that can and should be integrated.

Organizational change researchers have become interested in understanding what happens at the individual level as a result of organization initiated change (Armenakis & Bedian, 1999). Although organizations spend considerable resources and attention to hiring and orienting new employees, little is known about antecedents of PE fit in the ongoing work life of incumbent employees (Bauer et al., 1998). A perspective for bringing these two research fields together was offered in Chao et al.'s (1994) conclusion that theory on outcomes of socialization, such as PE fit, should extend beyond organizational newcomers, providing the opportunity to assess their relationships with mainstream topics of OB. Moreover, both fields of study have significant voids in understanding the role of individual differences in their respective outcomes, particularly motivation-related tendencies.

This study provides an opportunity to learn more about these important issues. Overall, this paper examined the influences of two characteristics of the change process

and two individual-level motivational orientations, which could strengthen, weaken, or even reverse the potential impact of change on PE fit. The focal hypotheses of this study posited that the extent of change at the work unit level, the way the change was implemented, and individuals' fundamental motivational tendencies work together to affect aspects of PE fit at three levels: the job, the work group and the organization.

Specifically, as expected, fair practices by management during change were related to PJ fit, apparently because voice is instrumental in making job related adjustments, and PO fit, because such practices have been primarily associated with how employees feel about their organization. Management support, on the other hand, was related to PJ and PG fit. This most likely occurred because of the developmental resources made available and the commitment demonstrated by management that engendered employees' ability to keep pace with changes in their job and the rallying of teammates to "stick together" during the change.

With regards to motivational orientations, I expected Approach tendencies to reduce the negative influences of change and change process, while Avoid orientation would increase negative effects of change factors. I did find that Mastery (the more internally cued Approach trait) related positively with PJ and PO fit, possibly due to the self-determination of high Mastery individuals and their intrinsic interest in maintaining alignment with the organization. However, consistent with research on Approach motivational orientations (Kanfer, 2000), the more externally cued Approach motivational trait (e.g., Competitiveness) related to PE fit differently from Mastery. In this study, highly competitive oriented individuals only related positively with PE fit when management provided high levels of support for the change. Finally, the Avoid

tendency affected PE fit in surprising ways. In this study, while generally negative for PO fit adaptation, work units that were on average high (not low) in Avoid tendencies positively influenced individuals' ongoing alignment with their work group.

In conclusion, this study furthers our understanding of the potential for success of individuals (directly) and organizations (indirectly) involved in organizational change by relating effects of change to adaptive responses of employees such as maintaining fit with their work environment. In particular, emphasis is placed on opportunities for certain characteristics of the change process to ameliorate the "shock" to individuals from changes in their work unit. This study demonstrated that changes in fit with the workplace environment are complex, given that different aspects of the change situation and different motivational orientations of participating individuals affect fit differentially. This should be important and helpful to management because different dimensions of PE fit have different consequences for both the organization and the individual (Cable & DeRue, 2002; Kristof-Brown et al., 2002).

APPENDIX

Items used to construct the extent of Work Unit Change

Results of exploratory factor analysis

"*This specific change involved ...*"	Two Dimensions	
	Workplace	Work
Process		
1. … a reorganization of the work unit.	**.72**	.23
2. … moving people around to different offices or sites.	**.76**	-.12
3. … changes in the work unit's processes and procedures.	.15	**.71**
4. … modifications to the budget of this work unit.	**.44**	.23
5. … changes in the basic philosophy or values which guide the work unit.	.53	.45
6. … changes in the overall goals for this work unit.	.59	.47
7. … new people to lead the work unit.	**.76**	.13
8. … changes in the way people do their jobs in this work unit.	.12	**.85**
9. … changes in the daily routines of employees in this work unit.	.13	**.82**

Scale anchors
1 = Strongly Disagree 3 = neither agree nor disagree 5 = Strongly Agree

note: although items 5 and 6 cross-loaded on both factors, they were retained with the Workplace Change scale for theoretical and internal reliability reasons.

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Table 1A

Mean, Standard deviation, intra-class correlation and Correlation Table of Individual Level Variables

	Mean	Std Dev.	ICC1	1	2	3	4	5	6	7	8	9
Org Tenure	3.23	1.16	.31	-								
Job Tenure	3.30	1.10	.24	.63	-							
Age	2.91	1.00	.10	.33	.35	-						
Approach(Mastery)	4.86	.72	.13	.14	-.09	.15	**.80**					
Approach(Competitive)	3.35	.98	.05	-.08	-.06	-.18	.19	**.79**				
Avoid(Emotionality)	2.82	.89	.12	.09	.10	-.11	-.24	-.10	**.71**			
PJ Fit	3.09	.89	.12	-.09	-.02	-.11	.09	.00	-.07	**.76**		
PG Fit	2.89	.85	.00	-.10	-.03	-.16	.00	.00	.00	.44	**.81**	
PO Fit	3.22	.74	.10	-.14	-.07	-.09	.19	.00	-.18	.50	.42	**.74**

Notes:
$r > |.12|$, $p < .05$
Cronbach Alpha on the diagonal
ICC1 = intraclass correlation coefficient 1
Org Tenure, Job Tenure, and Age are categorical data on a 5 point scale
Approach and Avoid measures (Mastery, Competitiveness, and Emotionality) are on a 6 point Likert scale
PJ Fit, PG Fit, and PO Fit are on a 5 point Likert scale

Table 1B

Mean, Standard deviations, Intraclass Correlation Coefficient, and Correlation Table of Group Level Variables

	Mean	Std Dev.	ICC1	ICC2	Median R_{wg}	1	2	3	4	5
Consequence of Chg	3.13	.85	.18	.63	.96	**.80**				
Work Process Chg	4.06	1.29	.25	.72	.77	.09	**.77**			
Workplace Chg	3.53	1.19	.14	.56	.83	.07	.45	**.77**		
Chg Process Fairness	2.68	1.07	.32	.79	.86	.43	.27	.05	**.84**	
Mgt Support	3.09	.87	.24	.71	.80	.51	.16	.07	.51	**.79**

Notes:
$r > |.12|$, $p < .01$
Cronbach Alpha on the diagonal
ICC1 = intraclass correlation coefficient 1
ICC2 = intraclass correlation coefficient 2
Work Process Chg and Workplace Chg are on a 6 point Likert scale
Consequence of Change, Chg Process Fairness and Mgt Support are on a 5 point Likert scale

Table 2

Effects of change factors on PJ Fit (HLM Coefficients)

	Step 1	Step 2	Step 3	Step 4
Level-2 Effects				
Consequence of Change	.04	.05	.03	.04
Work Process Change	**.11***	.18	**.11***	**.12***
Workplace Change	.08	.34	.08	
Change process Fairness	-.07	.20	-.08	-.08
Management Support	.06	.20	.05	.04
Level-2 Interactions				
Chg Process Fairness X Work Process Change		-.02		
Management Support X Work Process Change		.00		
Chg Process Fairness X Workplace Change		-.07		
Management Support X Workplace Change		-.03		
Level-1 Effects				
Organizational Tenure	-.06	-.07	-.04	-.03
Age	-.07	-.07	**-.10***	**-.10****
Approach (Mastery)			**.11***	.12**
Approach (Competitiveness)			-.04	-.09
Avoid (Emotionality)			-.05	-.05
Cross-Level Interactions				
Mastery X Change Process Fairness				**-.12**** fig 2
Competitiveness X Management Support				**.12**** fig 3

+ p< .10, * p< .05, ** p< .01

Table 3

Effects of change factors on PG Fit (HLM Coefficients)

	Step 1	Step 2	Step 3	Step 4
Level-2 Effects				
Consequence of Change	-.03	-.03	-.03	-.05
Work Process Change	**.07**$^{+}$	.19	**.07**$^{+}$	.09
Workplace Change	.03	.28	.03	.05
Change Process Fairness	-.05	.25	-.05	.12
Management Support				
Level-2 Interactions				
Chg Process Fairness X Work Process Change		-.03		
Management Support X Work Process Change		.00		-.01
Chg Process Fairness X Workplace Change		-.05		
Management Support X Workplace Change		-.04		
Level-1 Effects				
Organizational Tenure	-.04	-.05	-.04	
Age	**-.12***	**-.12***	**-.12***	**-.14****
Approach (Mastery)			.01	
Approach (Competitiveness)			.00	.01
Avoid (Emotionality)			.00	-.02
Cross-Level Interactions				
Competitiveness X Work Process Change				-.30**
Competitiveness X Management Support				-.42**
Emotionality X Workplace Change				**.11**** fig 4
3 way cross-level interactions				
Work Process Change X Management Support X Competitiveness				**.09**** fig 5

+ p< .10, * p< .05, ** p< .01

Table 4

Effects of change factors on PO Fit (HLM Coefficients)

	Step 1	Step 2	Step 3	Step 4
Level-2 Effects				
Consequence of Change	-.02	.04	.00	-.02
Work Process Change	.04	**.37**$^{+}$	**.29***	.25*
Workplace Change	-.01	.24	.00	.00
Change Process Fairness	-.01	**.38**$^{+}$	**.40***	**.33**$^{+}$
Management Support	.04	.45	.04	.05
Level-2 Interactions				
Chg Process Fairness X Work Process Change		**-.10*** fig 6	-.09*	-.08^{+}
Management Support X Work Process Change		-.02		
Chg Process Fairness X Workplace Change		.00		
Management Support X Workplace Change		-.09		
Level-1 Effects				
Organizational Tenure	**-.09***	**-.08**$^{+}$	-.04	-.05
Age	-.03	-.03	**-.09**$^{+}$	**-.09**$^{+}$
Approach (Mastery)			**.18****	**.19****
Approach (Competitiveness)			-.05	-.05
Avoid (Emotionality)			**-.11****	-.11**
Cross-Level Interactions				
Emotionality X Workplace Change				**.08*** fig 7

+ p< .10, * p< .05, ** p< .01

Figure 1

The Overall Model for Testing the Effects of Change, Change Process Characteristics, and Motivational Orientations on P-E fit

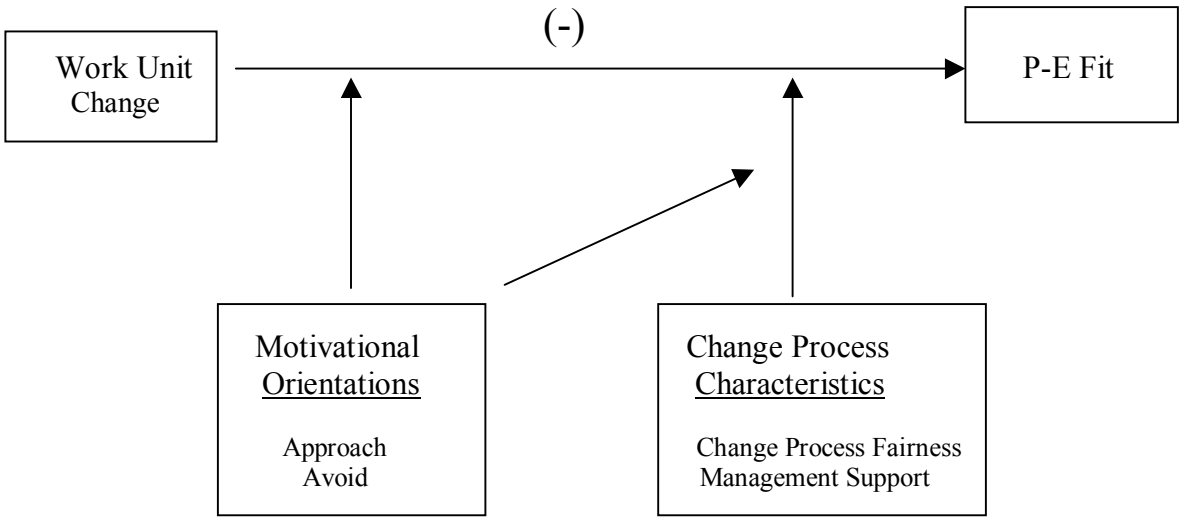
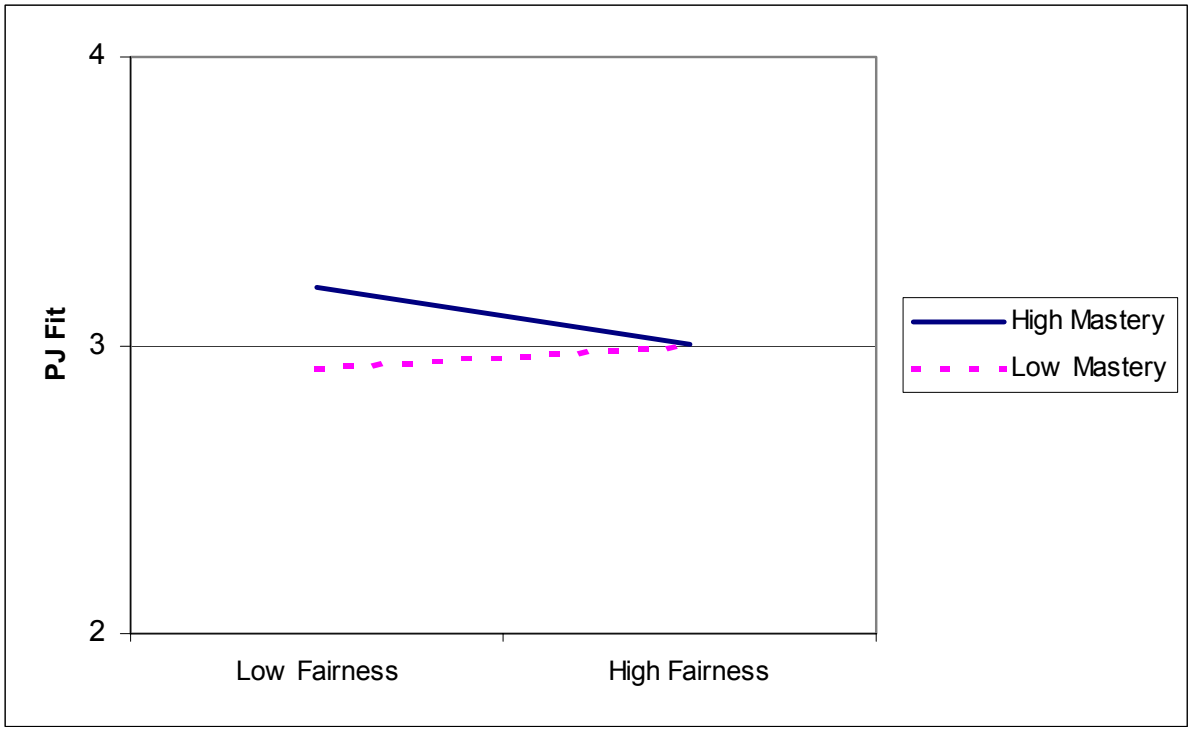


Figure 2

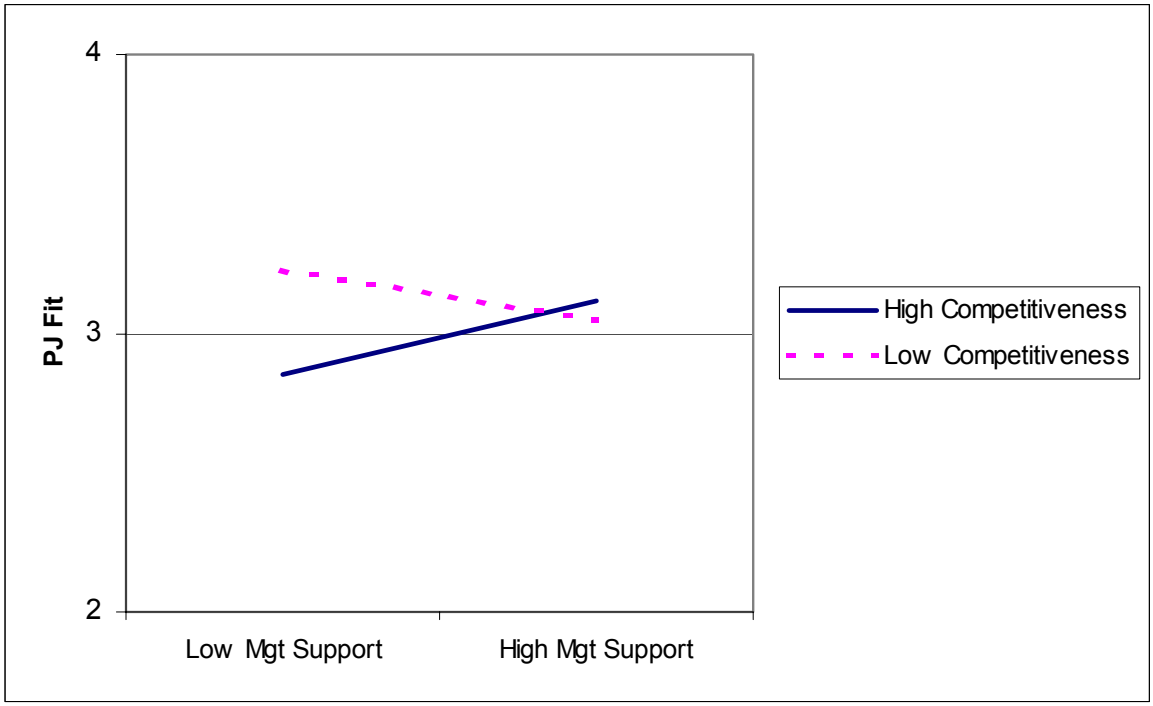
Effects of Interaction Between Change Process Fairness and Mastery on PJ Fit



The values used to determine the lines are 1 standard deviation either side of the mean.

Figure 3

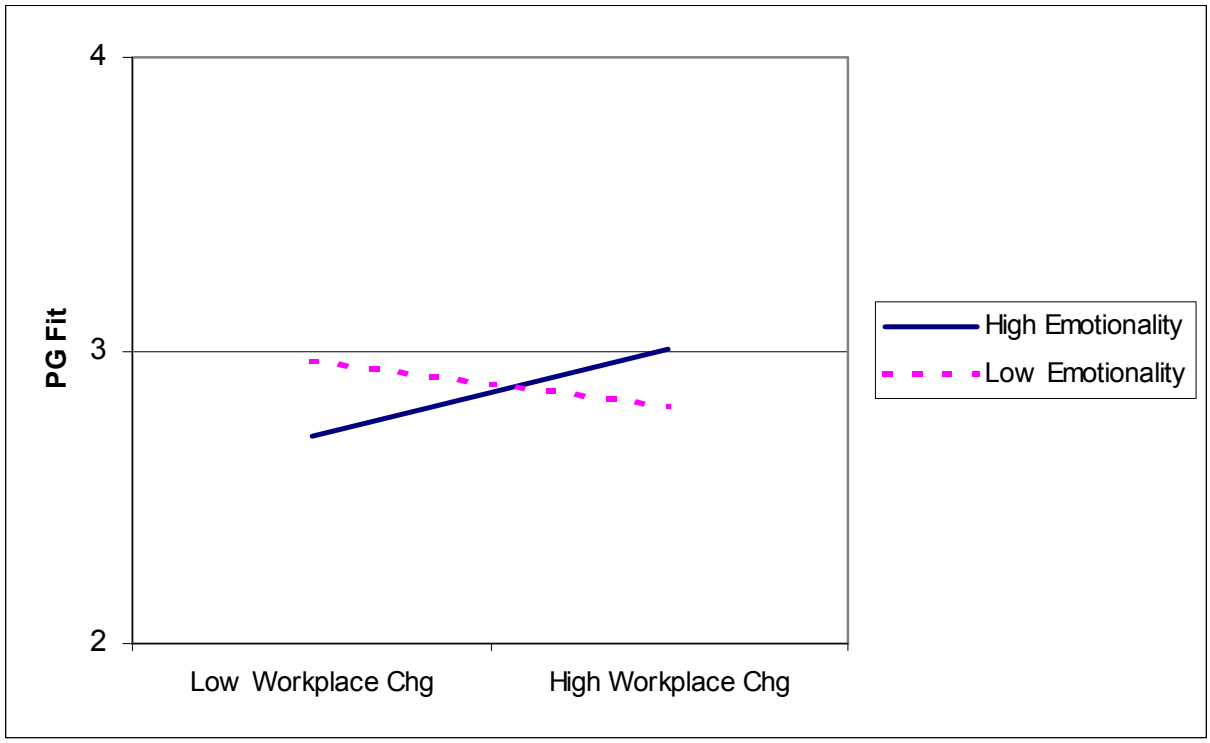
Effects of Interaction Between Management Support and Competitiveness on PJ Fit



The values used to determine the lines are 1 standard deviation either side of the mean.

Figure 4

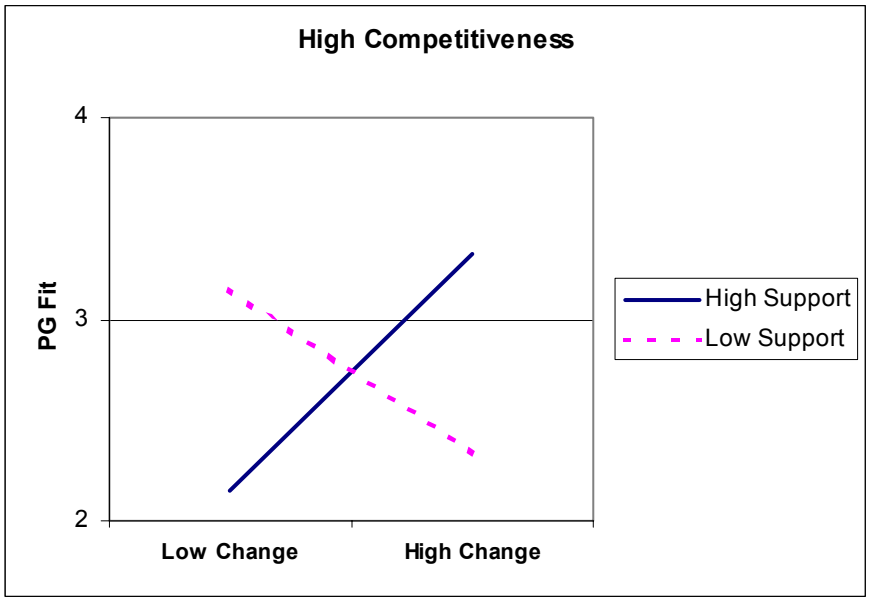
Effects of Interaction between Workplace Change and Emotionality on PG Fit



The values used to determine the lines are 1 standard deviation either side of the mean.

Figure 5

Effects of 3-way Interaction between Management Support, Work Process Change and Individuals' Competitiveness on PG Fit



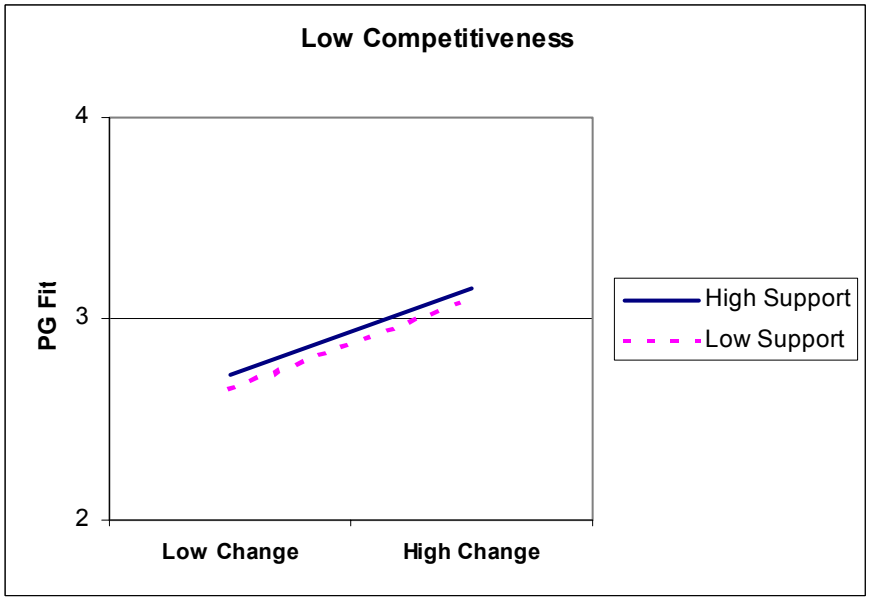
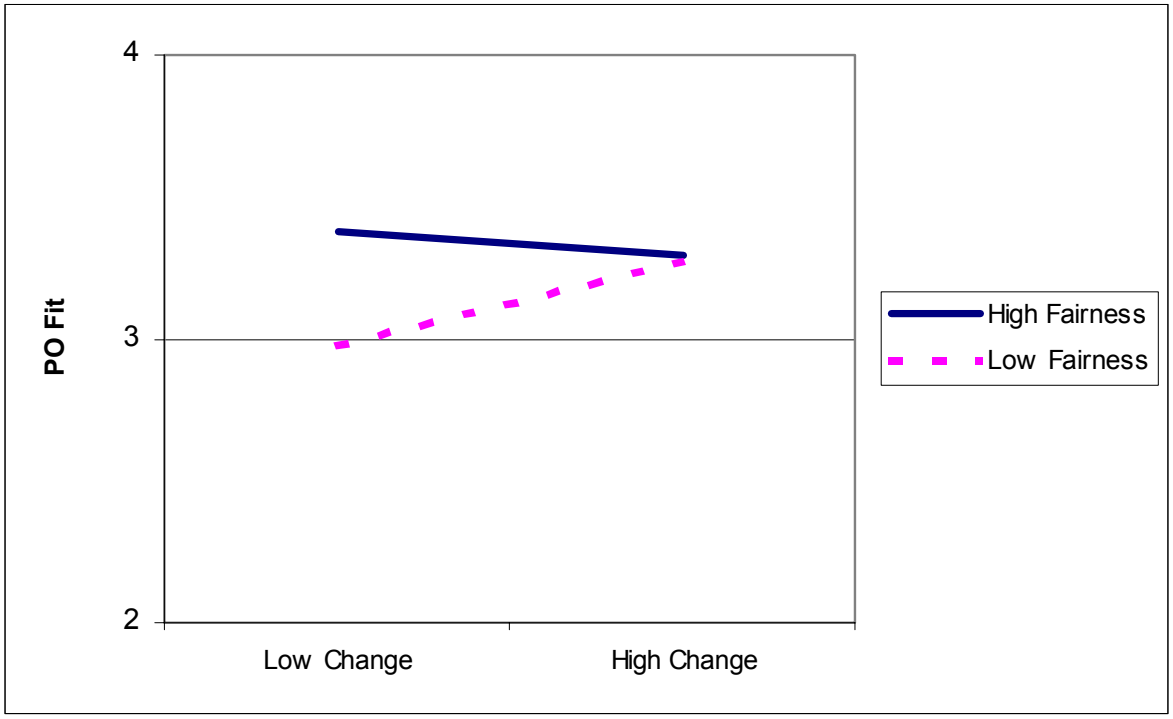


Figure 6

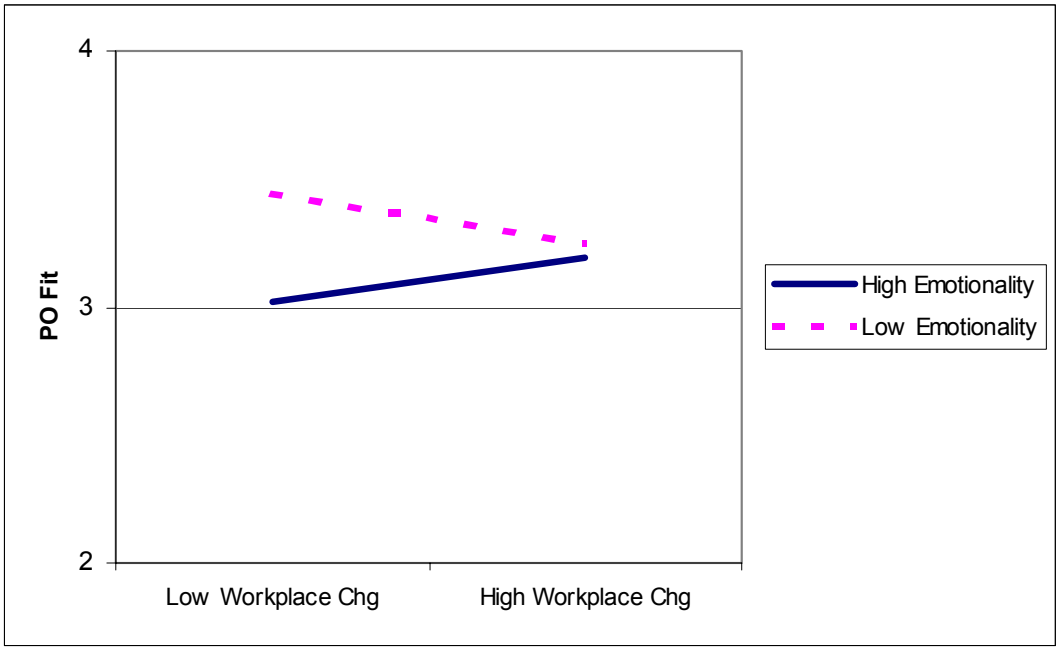
Effects of Interaction between Change Process Fairness and Work Process Change on PO Fit



The values used to determine the lines are 1 standard deviation either side of the mean.

Figure 7

Effects of Interaction between Workplace Change and Emotionality on PO Fit



The values used to determine the lines are 1 standard deviation either side of the mean.

VITA

Steven D. Caldwell was born in Montgomery, Ala. on December 30, 1949. After receiving a Bachelor of Arts degree in Mathematics from Huntingdon College, Montgomery, Ala. and a Masters of Science degree in Mathematics from Auburn University, he successfully completed a 28 year career in information systems and technology. His career included project management involving the implementation of new information technology, eighteen years as the chief information systems executive, and founding a data mining company for the consumer products industry. During doctoral studies in the College of Management at The Georgia Institute of Technology, Mr. Caldwell published manuscripts in Decision Sciences Journal and the Journal of Applied Psychology.